Curriculum Correlation
Number Cluster 1: Counting

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **N1 Quantity Relations:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢ **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points **Cross Strand:** Patterning and Algebra **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns			
N1.2 Read and print in words whole numbers to twenty, using meaningful contexts **N2.1** Count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 **N2.2** Count backwards by 1's from 50 and any number less than 50, and count backwards by 10's from 100 and any number less than 100, using number lines and hundreds charts **P1.1** identify and describe, through investigation, growing	**Below Grade: Intervention** 1: Skip-Counting with Objects 2: Skip-Counting Backward **On Grade: Teacher Cards** 1: Bridging Tens (N1.2, N2.1, N2.2, P1.1, P1.7) 2: Skip-Counting Forward (N2.1, P1.1, P1.7) 3: Skip-Counting Flexibly (not required by your curriculum) 4: Skip-Counting Backward (N2.2, P1.1, P1.7) 5: Counting Consolidation (N2.1, N2.2, P1.1, P1.7) **On Grade: Math Every Day Card 1A:** Skip-Counting on a Hundred Chart (N2.1, N2.2) Skip-Counting from Any Number (not required by your curriculum)	**Below Grade:** • On Safari (Activities 1, 2, 5) • How Many is Too Many? (Activities 2, 5) **On Grade:** • What Would You Rather? (Activities 1, 2, 5) • Ways to Count (Activities 2, 5) • Family Fun Day (Activities 2, 5)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequences forward and backward from a given number. (Activities 1, 5) - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). (Activities 1, 5) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 4, 5; MED 1A: 1, MED 1B: 1, 2) **Recognizing and Writing Numerals** - Names, writes, and matches two-digit numerals to quantities. (Activity 1) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 4, 5; MED 1A: 1, MED 1B: 1, 2)

Curriculum Correlation
Number Cluster 1: Counting

Ontario (continued)

patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart **P1.7** demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation).	**Card 1B:** Skip-Counting with Actions (N2.1) What's Wrong? What's Missing? (N2.1, N2.2)		

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Curriculum Correlation
Number Cluster 1: Counting

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Numbers to 100 represent quantities that can be decomposed into 10s and 1s.			

N1 Number concepts to 100
• Counting
  ○ **N1.1** skip-counting by 2, 5, and 10:
   – **N1.1a** using different starting points
   – **N1.1b** increasing and decreasing (forward and backward)
	Below Grade: Intervention
	1: Skip-Counting with Objects
	2: Skip-Counting Backward
	
	On Grade: Teacher Cards
	1: Bridging Tens (not required by your curriculum)
	2: Skip-Counting Forward (N1.1, N1.1b)
	3: Skip-Counting Flexibly (N1.1, N1.1a, N1.1b)
	4: Skip-Counting Backward (N1.1, N1.1b)
	5: Counting Consolidation (N1.1, N1.1b)
	
	On Grade: Math Every Day Card 1A:
	Skip-Counting on a Hundred Chart
	(N1.1, N.1b)
	Skip-Counting from Any Number
	(N1.1, N1.1a, N1.1b)
	Card 1B:
	Skip-Counting with Actions
	(N1.1, N1.1a, N1.1b)
	What's Wrong? What's Missing?
	(N1.1, N1.1b)
		Below Grade:
		• On Safari
		(Activities 2, 5)
		• How Many is Too Many?
		(Activities 2, 5)
		
		On Grade:
		• What Would You Rather?
		(Activities 2, 5)
		• Ways to Count
		(Activities 2, 3, 5)
		• Family Fun Day
		(Activities 2, 5)
			Big Idea: Numbers tell us how many and how much.
			Applying the Principles of Counting
			- Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)
			
			Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.
			Unitizing Quantities and Comparing Units to the Whole
			- Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)

Curriculum Correlation
Number Cluster 1: Counting

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
N1 Say the number sequence from 0 to 100 by: • **N1a** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • **2N1b** 10s, using starting points from 1 to 9 • **2N1c** 2s, starting from 1. **N4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **N5** Compare and order numbers up to 100.	**Below Grade: Intervention** 1: Skip-Counting with Objects 2: Skip-Counting Backward **On Grade: Teacher Cards** 1: Bridging Tens (N4, N5) 2: Skip-Counting Forward (N1a) 3: Skip-Counting Flexibly (N1b, N1b) 4: Skip-Counting Backward (N1a) 5: Counting Consolidation (N1a) **On Grade: Math Every Day Card 1A:** Skip-Counting on a Hundred Chart (N1a) Skip-Counting from Any Number (N1b, N1c) **Card 1B:** Skip-Counting with Actions (N1a, N1b) What's Wrong? What's Missing? (N1a)	**Below Grade:** • On Safari (Activities 1, 2, 5) • How Many is Too Many? (Activities 2, 5) **On Grade:** • What Would You Rather? (Activities 1, 2, 5) • Ways to Count (Activities 2, 3, 5) • Family Fun Day (Activities 2, 5)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequences forward and backward from a given number. (Activities 1, 5) - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). (Activities 1, 5) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2) **Recognizing and Writing Numerals** - Names, writes, and matches two-digit numerals to quantities. (Activity 1) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)

Curriculum Correlation
Number Cluster 1: Counting

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense.			
2.N.1 Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s, using starting points from 1 to 9 • 2s, starting from 1. **2.N.5** Compare and order numbers up to 100.	**Below Grade: Intervention** 1: Skip-Counting with Objects 2: Skip-Counting Backward **On Grade: Teacher Cards** 1: Bridging Tens (2.N.5) 2: Skip-Counting Forward (2.N.1) 3: Skip-Counting Flexibly (2.N.1) 4: Skip-Counting Backward (2.N.1) 5: Counting Consolidation (2.N.1) **On Grade: Math Every Day Card 1A:** Skip-Counting on a Hundred Chart (2.N.1) Skip-Counting from Any Number (2.N.1) **Card 1B:** Skip-Counting with Actions (2.N.1) What's Wrong? What's Missing? (2.N.1)	**Below Grade:** • On Safari (Activities 1, 2, 5) • How Many is Too Many? (Activities 2, 5) **On Grade:** • What Would You Rather? (Activities 1, 2, 5) • Ways to Count (Activities 2, 3, 5) • Family Fun Day (Activities 2, 5)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequences forward and backward from a given number. (Activities 1, 5) - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). (Activities 1, 5) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2) **Recognizing and Writing Numerals** - Names, writes, and matches two-digit numerals to quantities. (Activity 1) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)

Curriculum Correlation
Number Cluster 1: Counting

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense.			
N01 Students will be expected to say the number sequence by • **N01a** 1s, forward and backward, starting from any point to 200 • **N01b** 2s, forward and backward, starting from any point to 100 • **N01c** 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 • **N01d** 10s, starting from any point, to 100 **N04** Students will be expected to represent and partition numbers to 100. **N05** Students will be expected to compare and order numbers up to 100.	**Below Grade: Intervention** 1: Skip-Counting with Objects 2: Skip-Counting Backward **On Grade: Teacher Cards** 1: Bridging Tens (N01a, N04, N05) 2: Skip-Counting Forward (N01b, N01c) 3: Skip-Counting Flexibly (N01b, N01d) 4: Skip-Counting Backward (N01b, N01c) 5: Counting Consolidation (N01a, N01b, N01c) **On Grade: Math Every Day Card 1A:** Skip-Counting on a Hundred Chart (N01b, N01c) Skip-Counting from Any Number (N01b, N01d) **Card 1B:** Skip-Counting with Actions (N01b, N01c, N01d) What's Wrong? What's Missing? (N01b, N01c)	**Below Grade:** • On Safari (Activities 1, 2, 5) • How Many is Too Many? (Activities 2, 5) **On Grade:** • What Would You Rather? (Activities 1, 2, 5) • Ways to Count (Activities 2, 3, 5) • Family Fun Day (Activities 2, 5)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequences forward and backward from a given number. (Activities 1, 5) - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). (Activities 1, 5) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2) **Recognizing and Writing Numerals** - Names, writes, and matches two-digit numerals to quantities. (Activity 1) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)

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Curriculum Correlation
Number Cluster 1: Counting

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
Number **1.** Say the number sequence 0 to 100 by: • **1a.** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • **1b.** 10s, using starting points from 1 to 9 • **1c.** 2s, starting from 1. **2.** Represent and describe numbers to 100, concretely, pictorially and symbolically. **3.** Compare and order numbers up to 100. **4.** Represent and describe numbers to 100, concretely, pictorially and symbolically **5.** Compare and order numbers up to 100	**Below Grade: Intervention** 1: Skip-Counting with Objects 2: Skip-Counting Backward **On Grade: Teacher Cards** 1: Bridging Tens (N4, N5) 2: Skip-Counting Forward (N1a) 3: Skip-Counting Flexibly (N1a, N1c) 4: Skip-Counting Backward (N1a) 5: Counting Consolidation (N1a) **On Grade: Math Every Day Card 1A:** Skip-Counting on a Hundred Chart (N1a) Skip-Counting from Any Number (N1b, N1c) **Card 1B:** Skip-Counting with Actions (N1a, N1b) What's Wrong? What's Missing? (N1a)	**Below Grade:** • On Safari (Activities 1, 2, 5) • How Many is Too Many? (Activities 2, 5) **On Grade:** • What Would You Rather? (Activities 1, 2, 5) • Ways to Count (Activities 2, 3, 5) • Family Fun Day (Activities 2, 5)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequences forward and backward from a given number. (Activities 1, 5) - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). (Activities 1, 5) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2) **Recognizing and Writing Numerals** - Names, writes, and matches two-digit numerals to quantities. (Activity 1) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)

Curriculum Correlation
Number Cluster 1: Counting

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour			
Number **N2.1** Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • **N2.1a representing (including place value)** • N2.1b describing • **N2.1c skip counting** • N2.1d differentiating between odd and even numbers • N2.1e estimating with referents • N2.1f comparing two numbers • **N2.1g ordering three or more numbers**	**Below Grade: Intervention** 1: Skip-Counting with Objects 2: Skip-Counting Backward **On Grade: Teacher Cards** 1: Bridging Tens (N2.1a, N2.1g) 2: Skip-Counting Forward (N2.1c) 3: Skip-Counting Flexibly (N2.1c) 4: Skip-Counting Backward (N2.1c) 5: Counting Consolidation (N2.1c) **On Grade: Math Every Day** **Card 1A:** Skip-Counting on a Hundred Chart (N2.1c) Skip-Counting from Any Number (N2.1c) **Card 1B:** Skip-Counting with Actions (N2.1c) What's Wrong? What's Missing? (N2.1c)	**Below Grade:** • On Safari (Activities 1, 2, 5) • How Many is Too Many? (Activities 2, 5) **On Grade:** • What Would You Rather? (Activities 1, 2, 5) • Ways to Count (Activities 2, 3, 5) • Family Fun Day (Activities 2, 5)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequences forward and backward from a given number. (Activities 1, 5) - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). (Activities 1, 5) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2) **Recognizing and Writing Numerals** - Names, writes, and matches two-digit numerals to quantities. (Activity 1) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 2, 3, 4, 5; MED 1A: 1, 2; MED 1B: 1, 2)

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Hundred Chart (101–200)

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	74	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Name_____ Date _____

Hundred Charts (101–200)

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	74	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Name_____ Date _____

Hundred Charts (201–300)

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300

Name_____ Date _____

Hundred Charts (301–400)

301	302	303	304	305	306	307	308	309	310
311	312	313	314	315	316	317	318	319	320
321	322	323	324	325	326	327	328	329	330
331	332	333	334	335	336	337	338	339	340
341	342	343	344	345	346	347	348	349	350
351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370
371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390
391	392	393	394	395	396	397	398	399	400

Master 3d **Hundred Charts (401–500)**

401	402	403	404	405	406	407	408	409	410
411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430
431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450
451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470
471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490
491	492	493	494	495	496	497	498	499	500

Name_____ Date _____

Hundred Charts (501–600)

501	502	503	504	505	506	507	508	509	510
511	512	513	514	515	516	517	518	519	520
521	522	523	524	525	526	527	528	529	530
531	532	533	534	535	536	537	538	539	540
541	542	543	544	545	546	547	548	549	550
551	552	553	554	555	556	557	558	559	560
561	562	563	564	565	566	567	568	569	570
571	572	573	574	575	576	577	578	579	580
581	582	583	584	585	586	587	588	589	590
591	592	593	594	595	596	597	598	599	600

Name_____ Date _____

601	602	603	604	605	606	607	608	609	610
611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630
631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650
651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670
671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690
691	692	693	694	695	696	697	698	699	700

Name_____ Date _____

Hundred Charts (701–800)

701	702	703	704	705	706	707	708	709	710
711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730
731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750
751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790
791	792	793	794	795	796	797	798	799	800

Name_____ Date _____

Hundred Charts (801–900)

801	802	803	804	805	806	807	808	809	810
811	812	813	814	815	816	817	818	819	820
821	822	823	824	825	826	827	828	829	830
831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850
851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870
871	872	873	874	875	876	877	878	879	880
881	882	883	884	885	886	887	888	889	890
891	892	893	894	895	896	897	898	899	900

Hundred Charts (901–1000)

901	902	903	904	905	906	907	908	909	910
911	912	913	914	915	916	917	918	919	920
921	922	923	924	925	926	927	928	929	930
931	932	933	934	935	936	937	938	939	940
941	942	943	944	945	946	947	948	949	950
951	952	953	954	955	956	957	958	959	960
961	962	963	964	965	966	967	968	969	970
971	972	973	974	975	976	977	978	979	980
981	982	983	984	985	986	987	988	989	990
991	992	993	994	995	996	997	998	999	1000

Name_____ Date _____

**Bridging Tens and Hundreds
Game Cards**

Start at 95. Count on by 1s 6 times. Then count back.	Start at 103. Count on by 1s 6 times. Then count back.
Start at 57. Count on by 1s 6 times. Then count back.	Start at 68. Count on by 1s 6 times. Then count back.
Start at 79. Count on by 1s 6 times. Then count back.	Start at 86. Count on by 1s 6 times. Then count back.
Start at 91. Count on by 10s 6 times. Then count back.	Start at 74. Count on by 10s 6 times. Then count back.
Start at 63. Count on by 10s 6 times. Then count back.	Start at 110. Count on by 10s 6 times. Then count back.

Name_____ Date _____

**Bridging Tens and Hundreds
Game Cards**

Start at 135. Count on by 10s 6 times. Then count back.	Start at 140. Count on by 10s 6 times. Then count back.
Start at 45. Count on by 20s 6 times.	Start at 188. Count back by 20s 6 times.
Start at 80. Count on by 20s 6 times.	Start at 147. Count back by 20s 6 times.
Start at 35. Count on by 20s 6 times.	Start at 122. Count back by 20s 6 times.
Start at 77. Count on by 20s 6 times.	Start at 165. Count back by 20s 6 times.

Master 4c **Bridging Tens and Hundreds (Blank Cards)**

Master 5: Activity 1 Assessment
Bridging Tens

Counting On and Counting Back Behaviours/Strategies		
1. Student begins with start number, but omits numbers when saying number name sequences forward and backward. "11, 12, 14, 16, 17, 18"	2. Student begins with start number, but mixes up the order when saying number name sequences forward and backward. "11, 12, 14, 13, 15, 16"	3. Student says the number name sequences forward and backward from a given number and relies on the hundred chart or class number line. 21 22 ㉓ 24 25 26 27 28 29 30 "24, 25, 26, 27, 28, 29"
Observations/Documentation		
4. Student says the number name sequences forward and backward from a given number, but struggles to bridge tens. "47, 48, 49, 30, 31"	5. Student says the number name sequences forward and backward from a given number and successfully bridges tens, but does not recognize patterns in the number name sequence. "I don't see any patterns."	6. Student says the number name sequences forward and backward from a given number and uses number patterns to bridge tens and hundreds.
Observations/Documentation		

Name_____ Date _____

Skip-Counting by 2s Spider Webs

Start at 0. Skip-count by 2s.
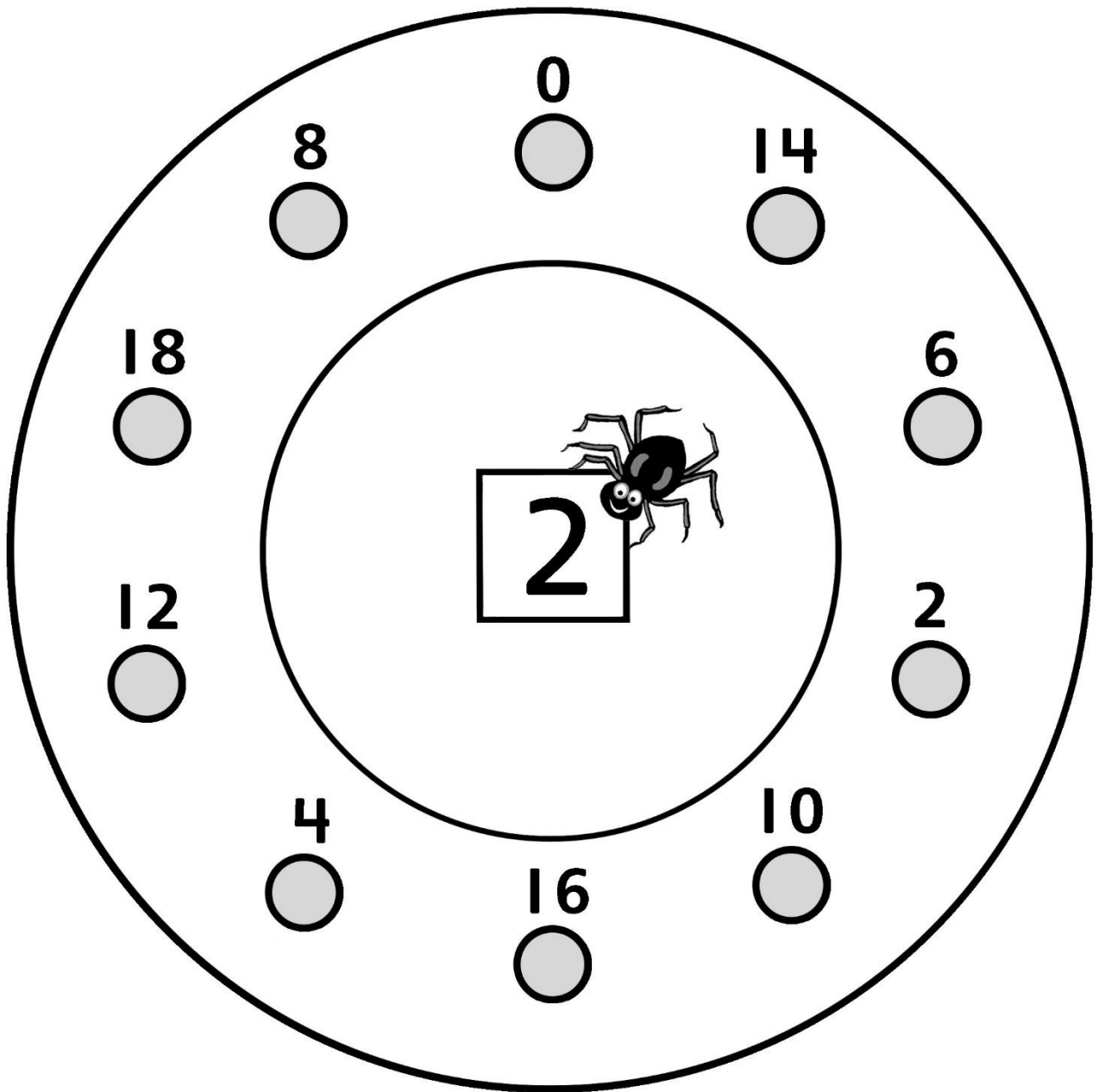
Master 6b **Skip-Counting by 2s Spider Webs**

Start at 22. Skip-count by 2s.
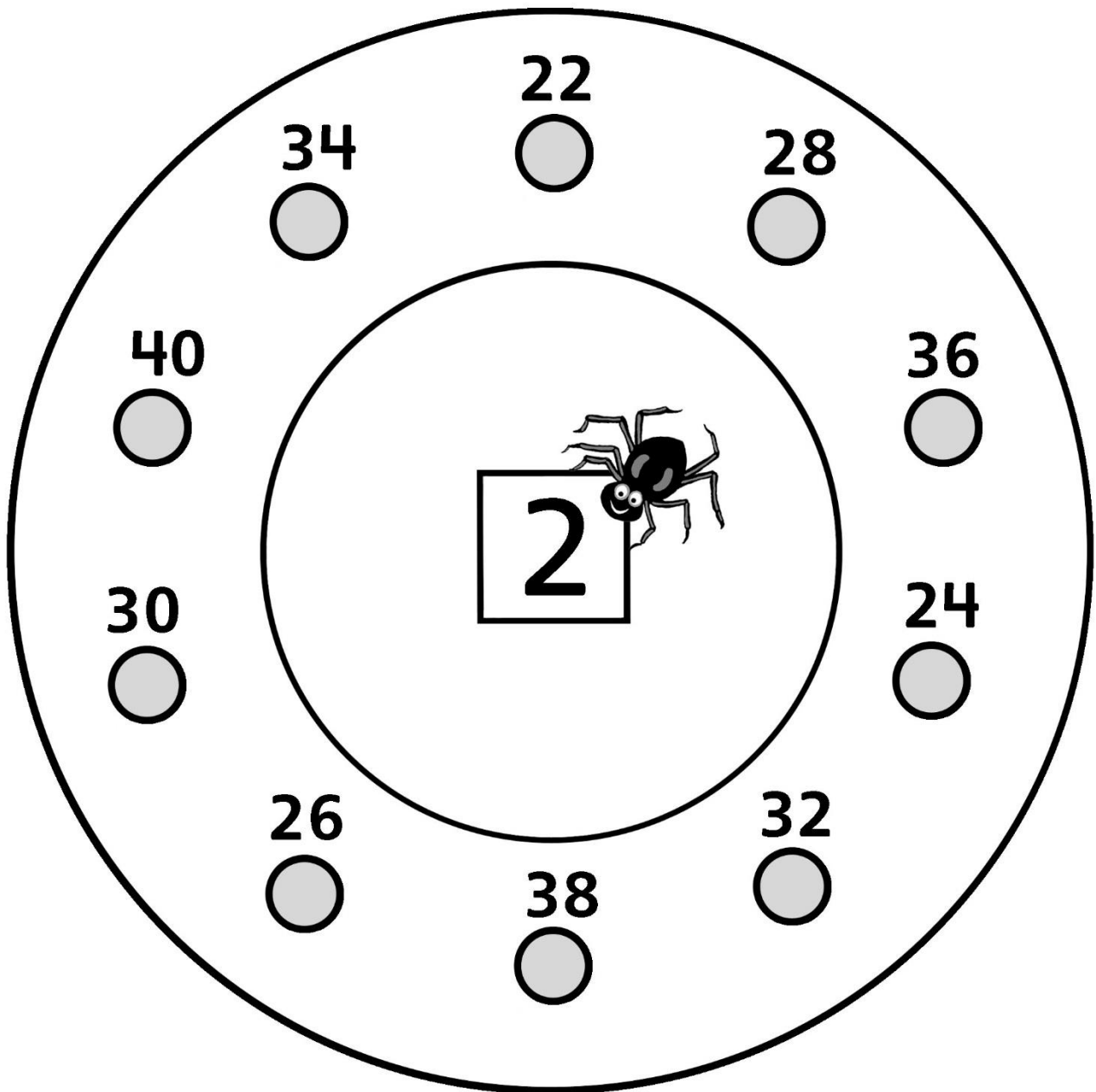
Master 6c # Skip-Counting by 2s Spider Webs

Start at 54. Skip-count by 2s.

58

68

64

62

70

2

56

54

66

60

72
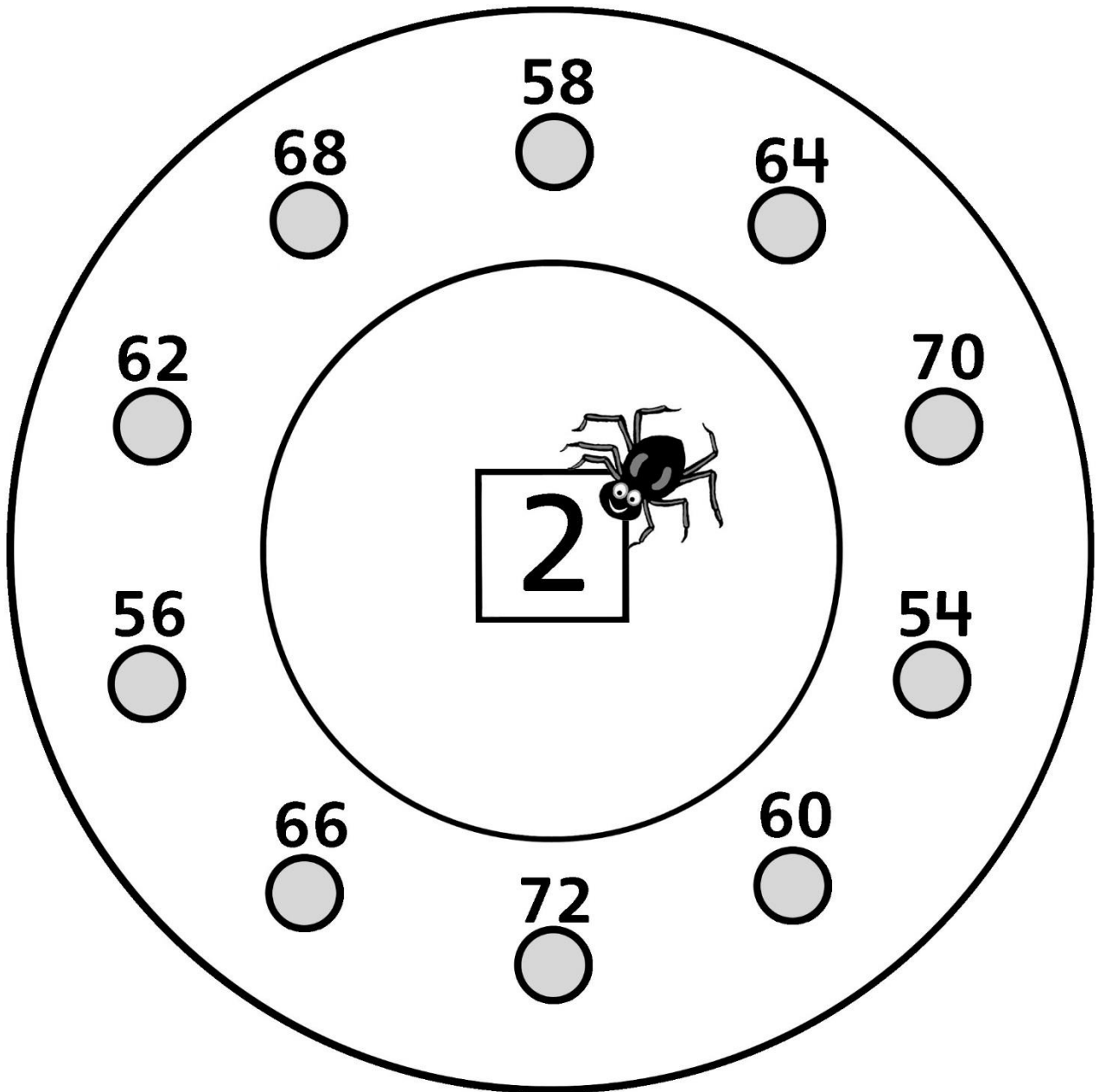
Master 7a Skip-Counting by 5s Spider Webs

Start at 0. Skip-count by 5s.
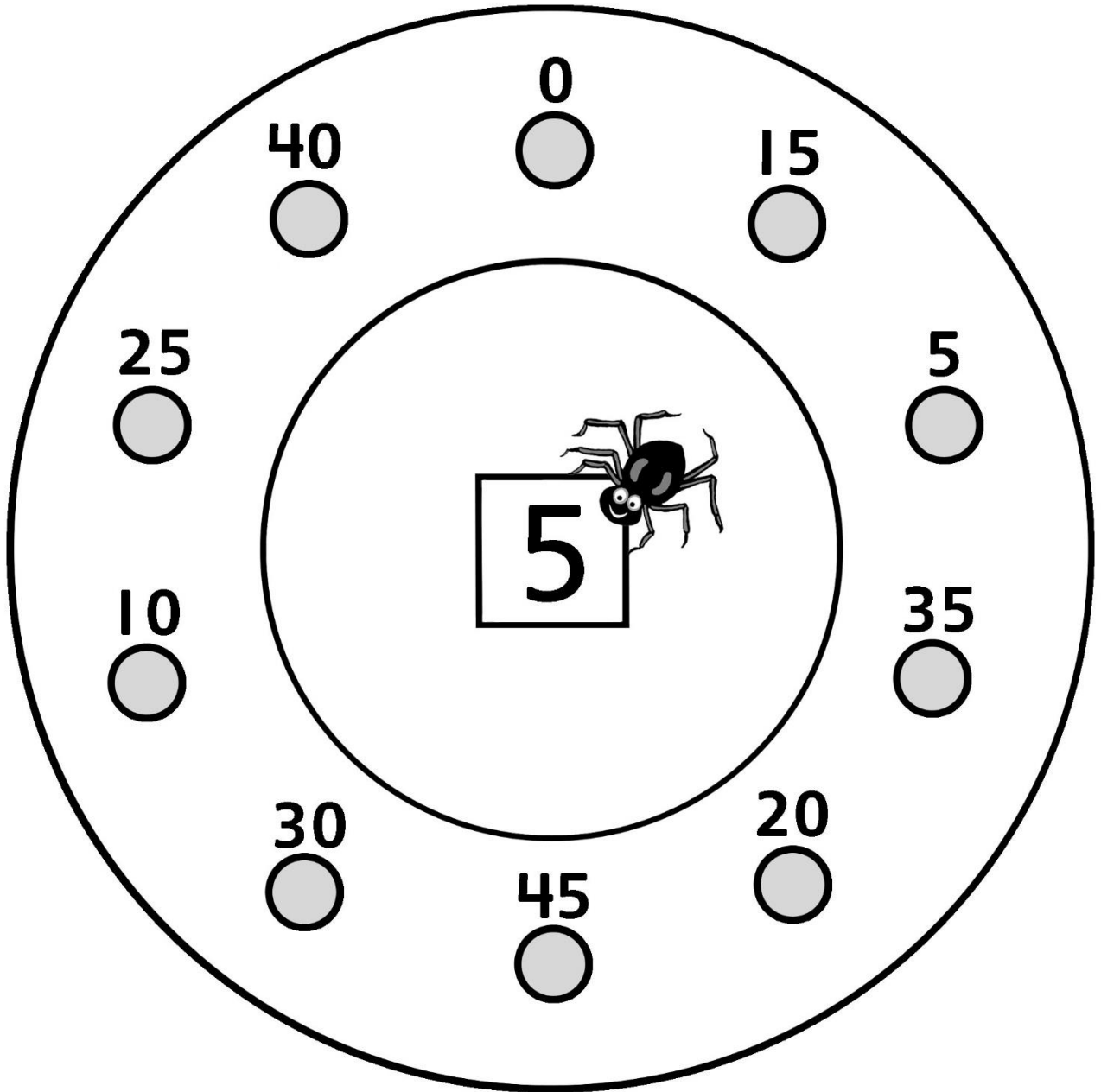
Master 7b) **Skip-Counting by 5s Spider Webs**

Start at 25. Skip-count by 5s.

Name_____ Date _____
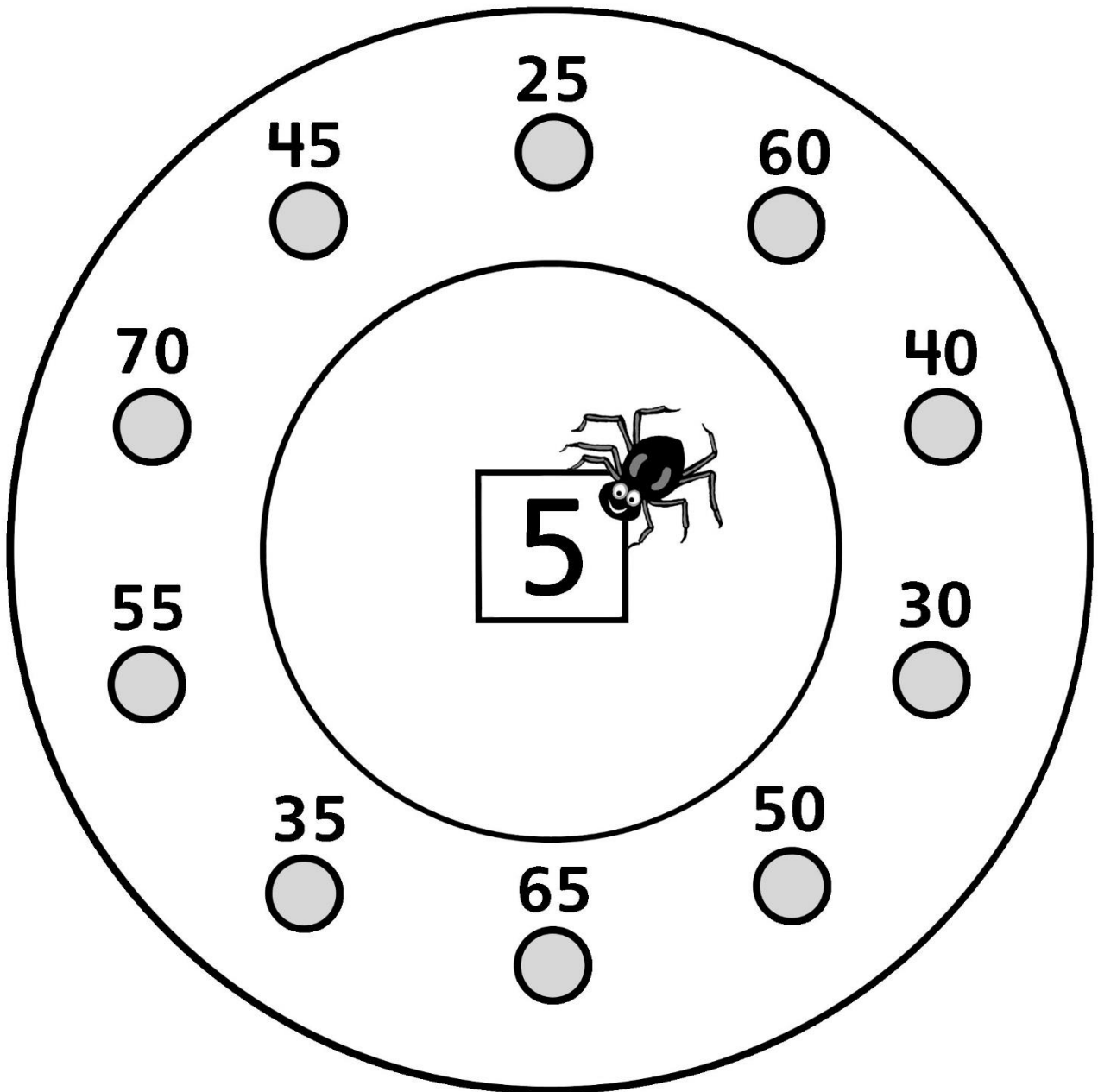
Skip-Counting by 5s Spider Webs

Start at 50. Skip-count by 5s.
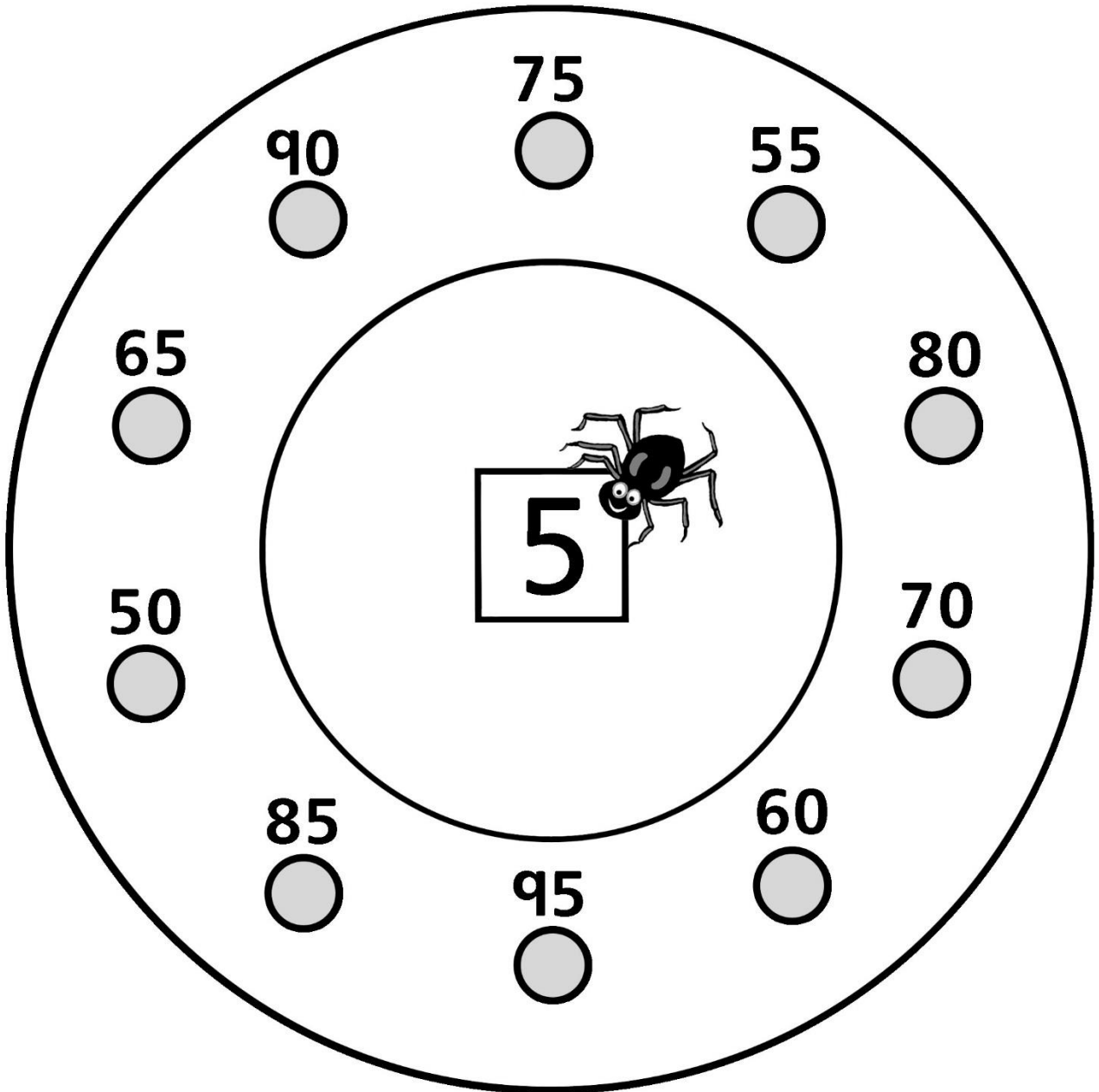
Master 7d Skip-Counting by 5s Spider Webs

Start at 75. Skip-count by 5s.
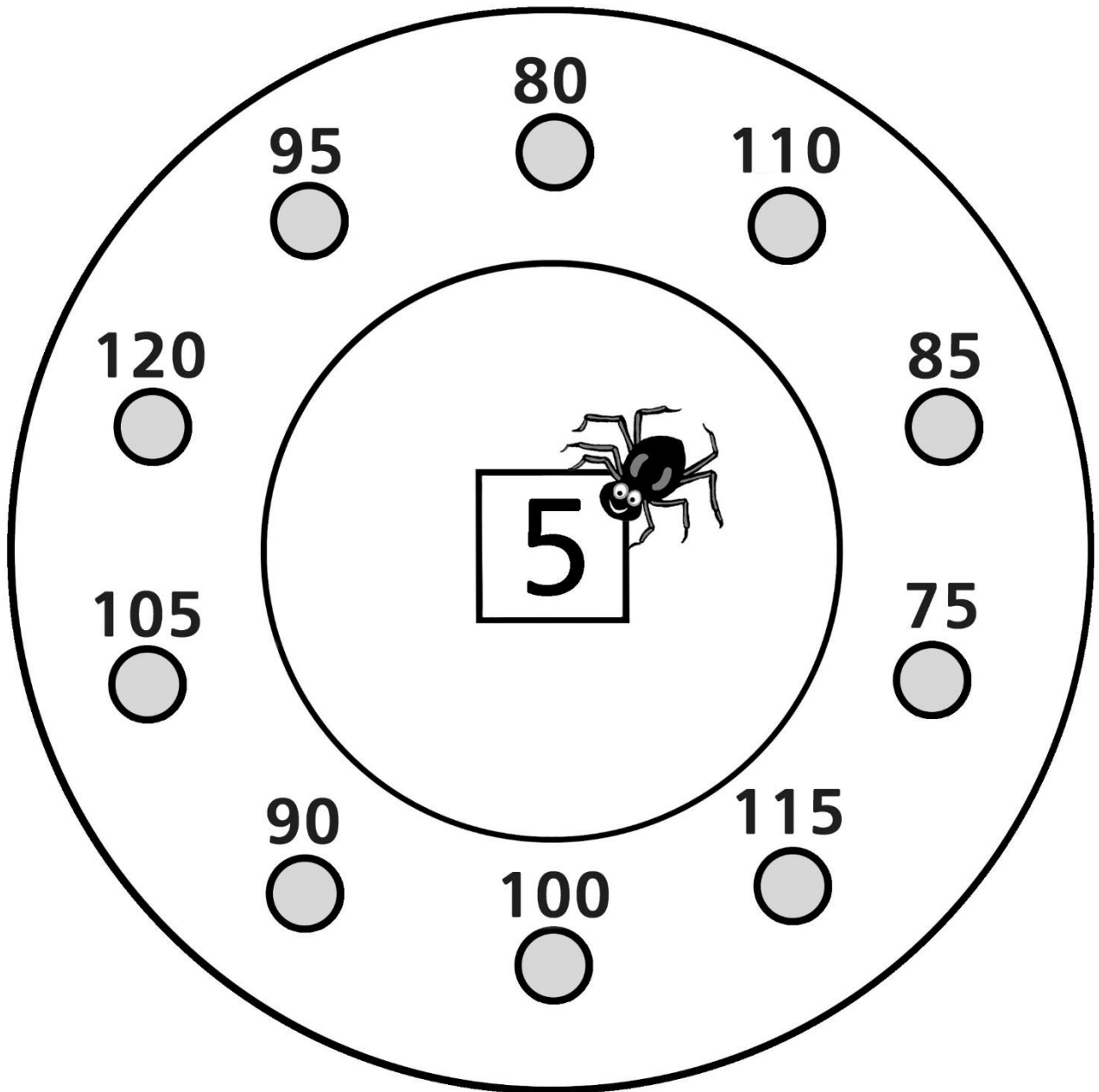
(**Master 7e**) **Skip-Counting by 5s Spider Webs**

Start at 100. Skip-count by 5s.

100
115   130
140   105

5

125   145
110   135
120
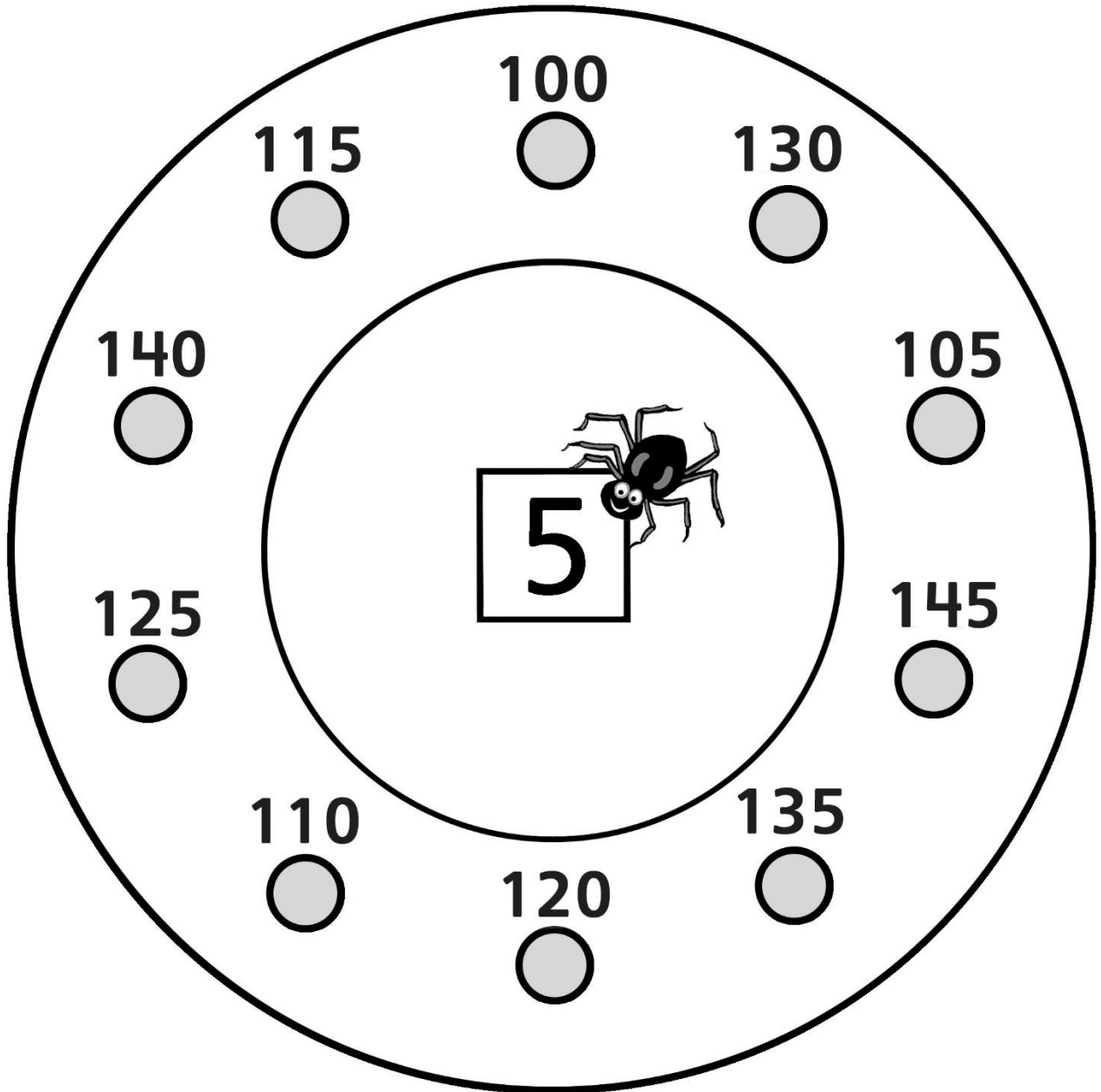
Master 7f **Counting by 5s Spider Webs**

Start at 125. Skip-count by 5s.

145
130   165
155   140
5
170   150
135   160
125
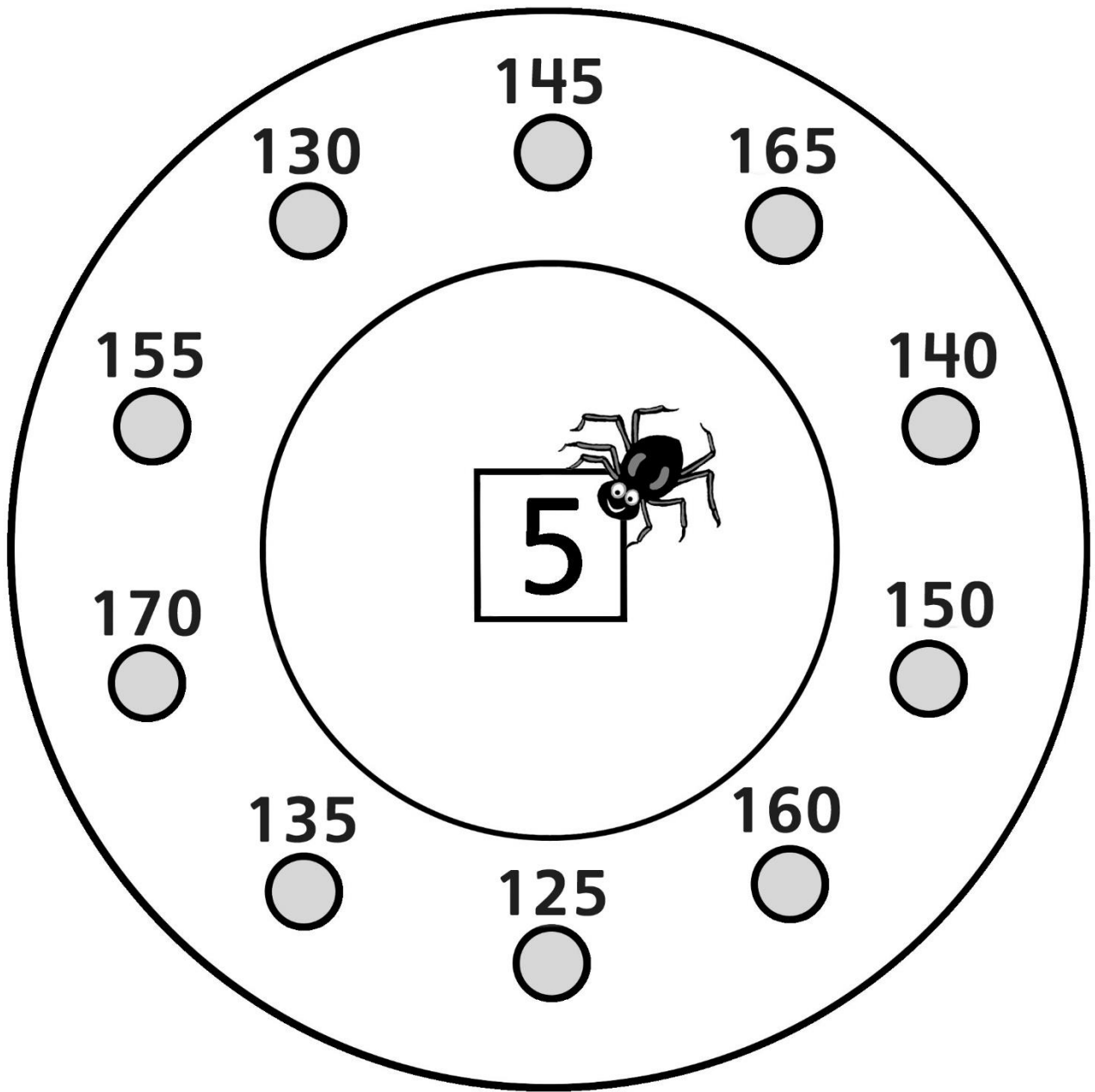
Master 7g **Skip-Counting by 5s Spider Webs**

Start at 155. Skip-count by 5s.

Name_____ Date _____
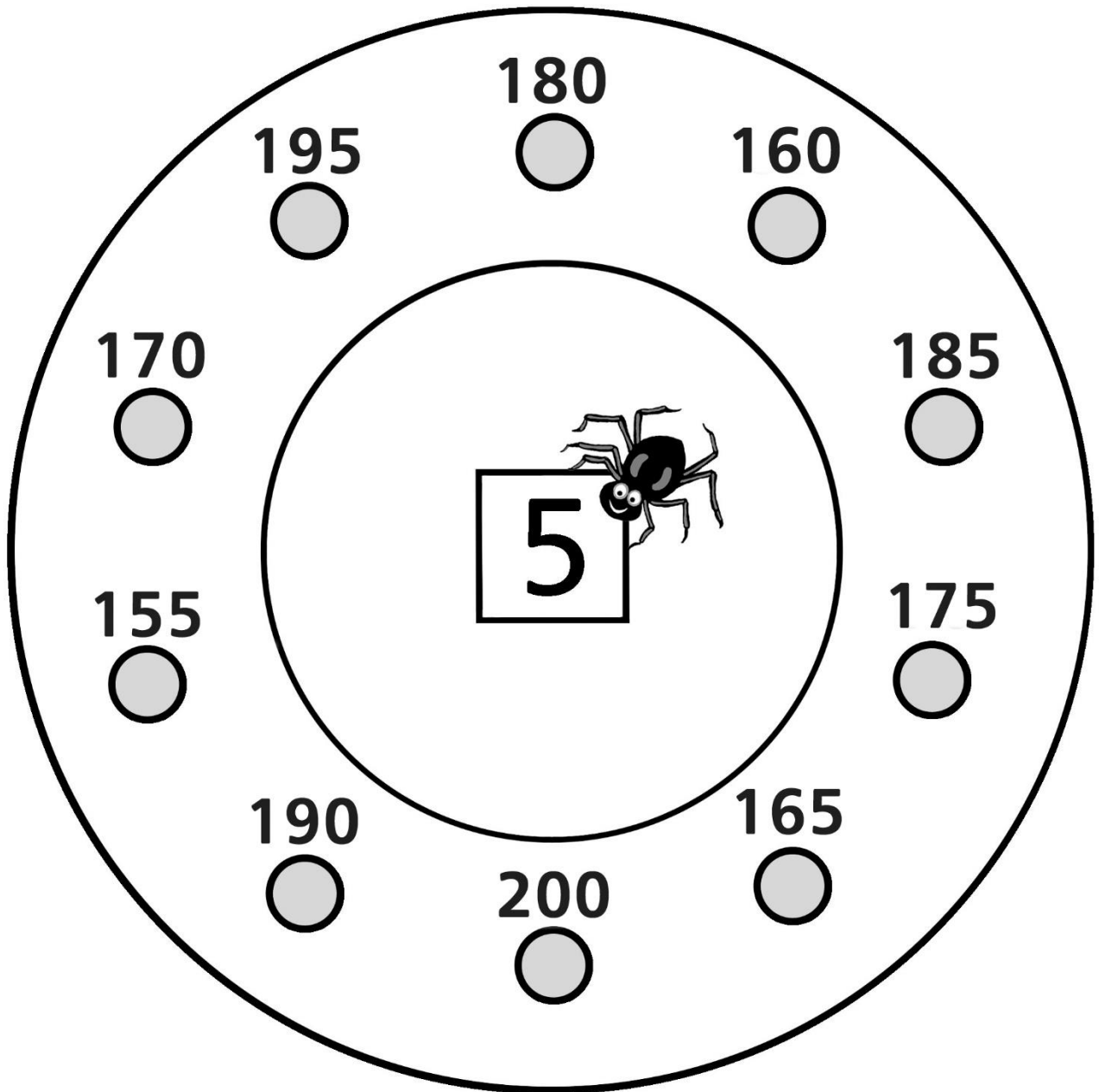
Start at 0. Skip-count by 10s.

Name_____ Date _____
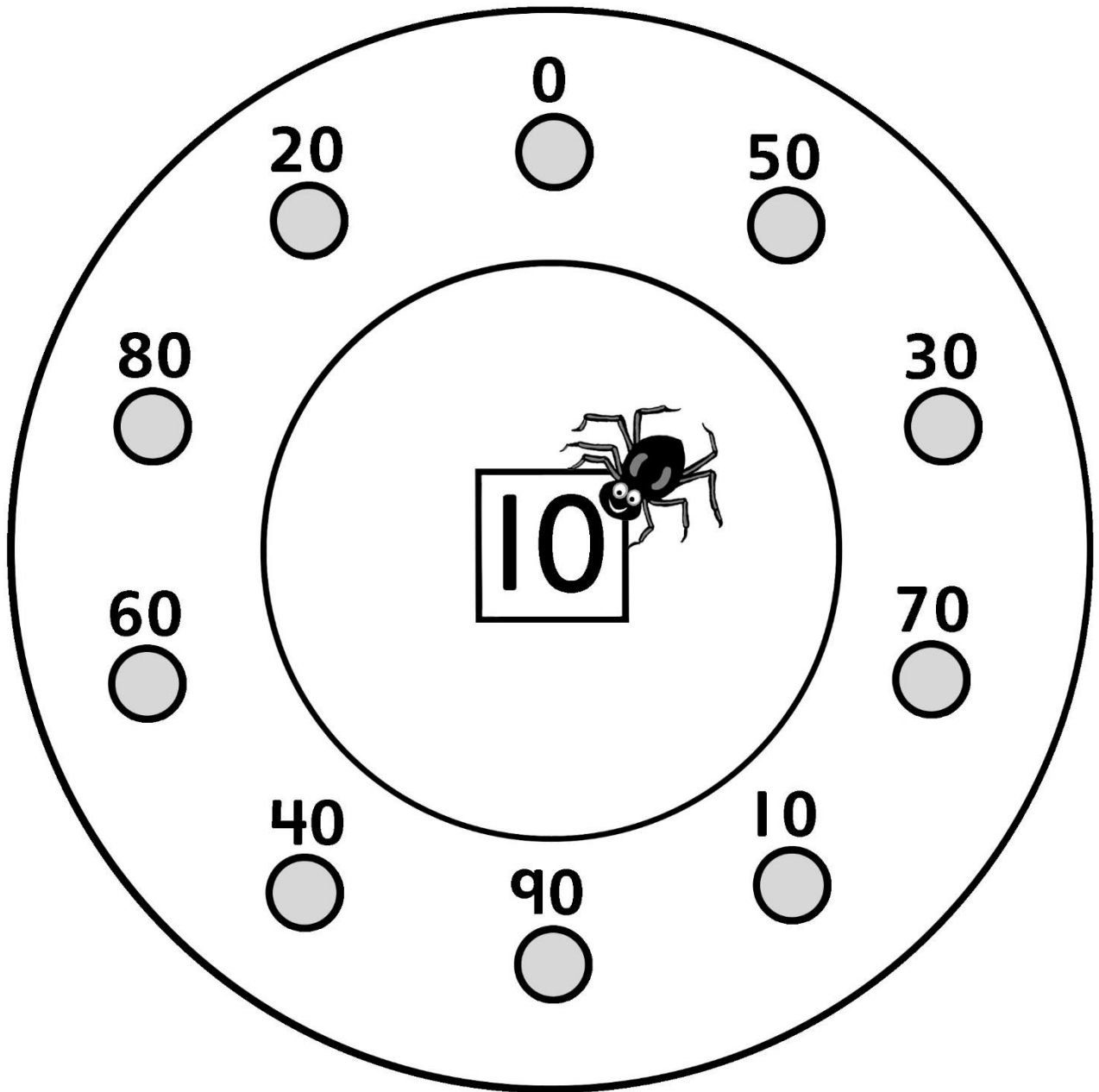
Skip-Counting by 10s Spider Webs

Start at 10. Skip-count by 10s.

90

60

30

10

50

10

40

80

70

20

100

Name_____ Date _____
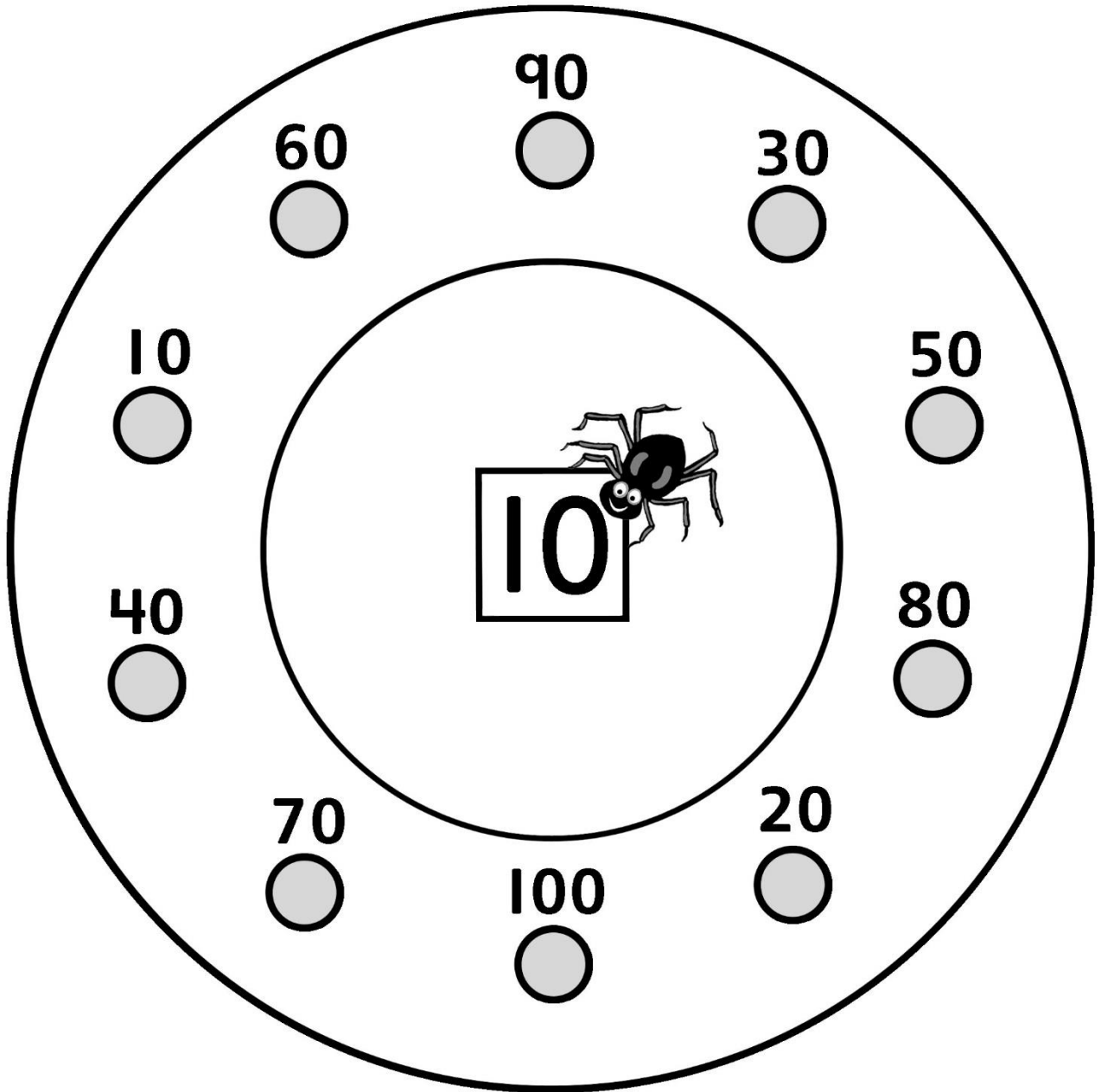
Skip-Counting by 10s Spider Webs

Start at 100. Skip-count by 10s.

190

170   140

110   160

10

130   120

150   180

100

Name_____ Date _____
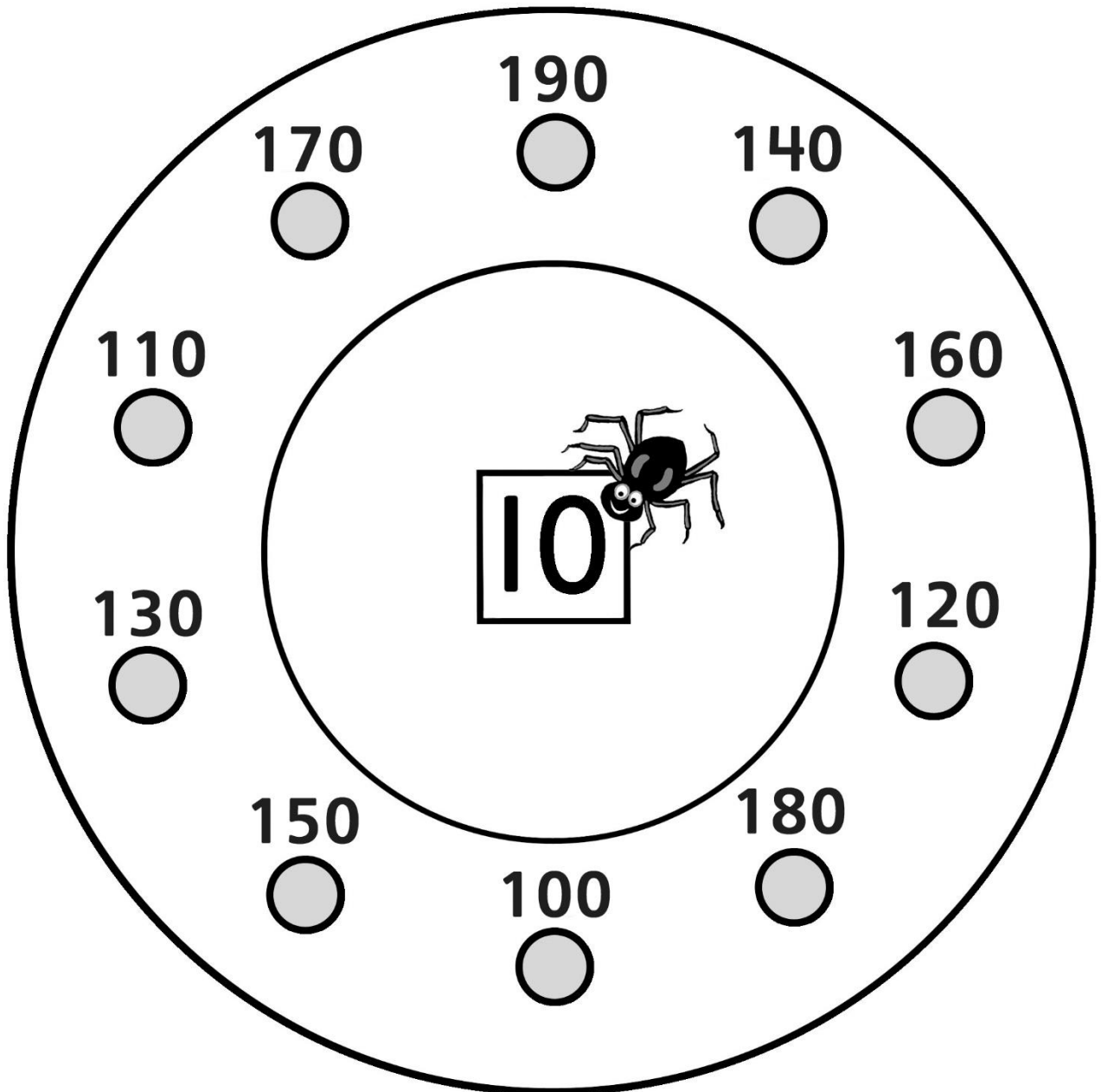
Skip-Counting by 10s Spider Webs

Start at 110. Skip-count by 10s.
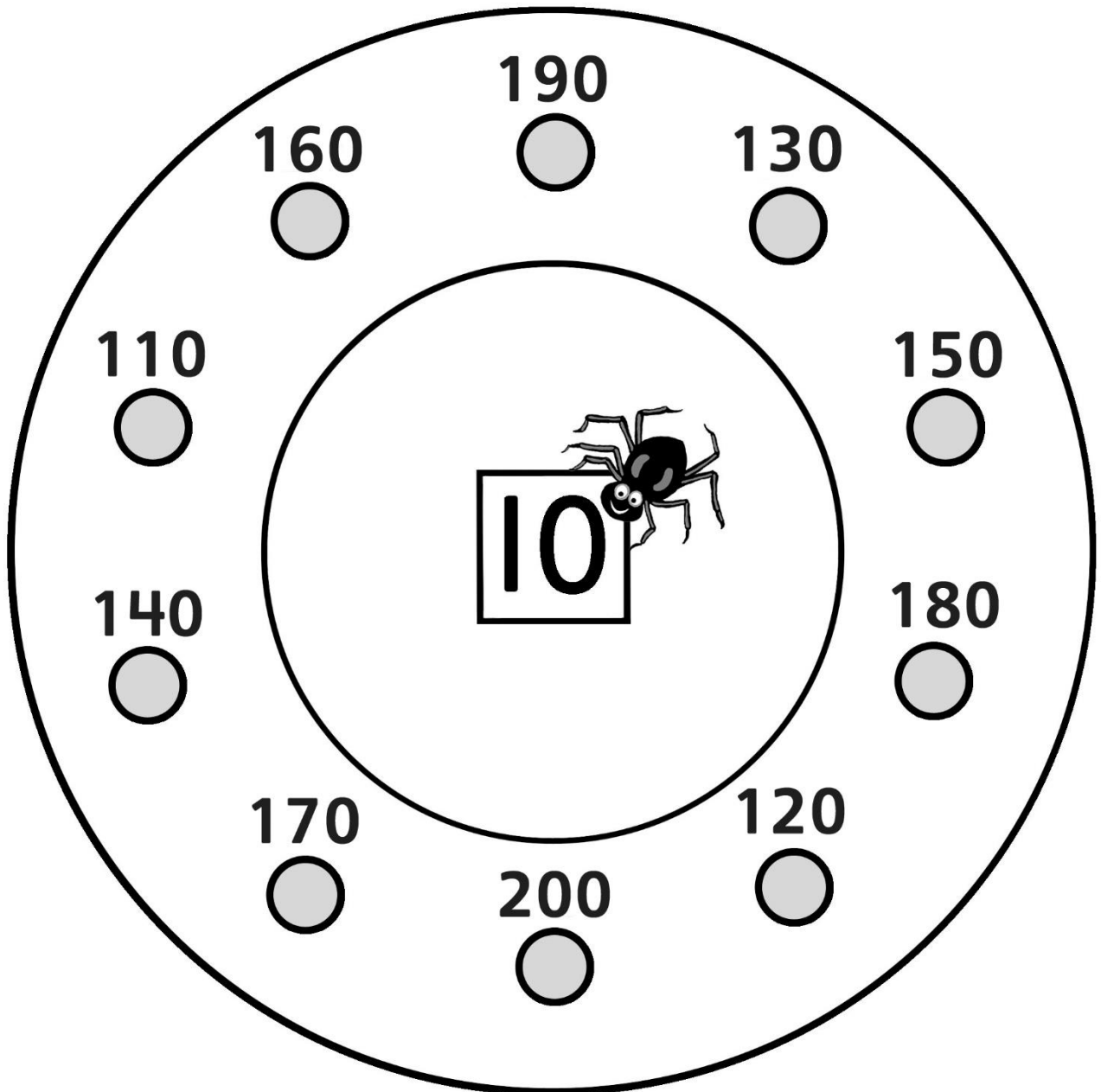
190

160   130

110   150

10

140   180

170   120

200

Name_____ Date _____

Name_____   Date _____
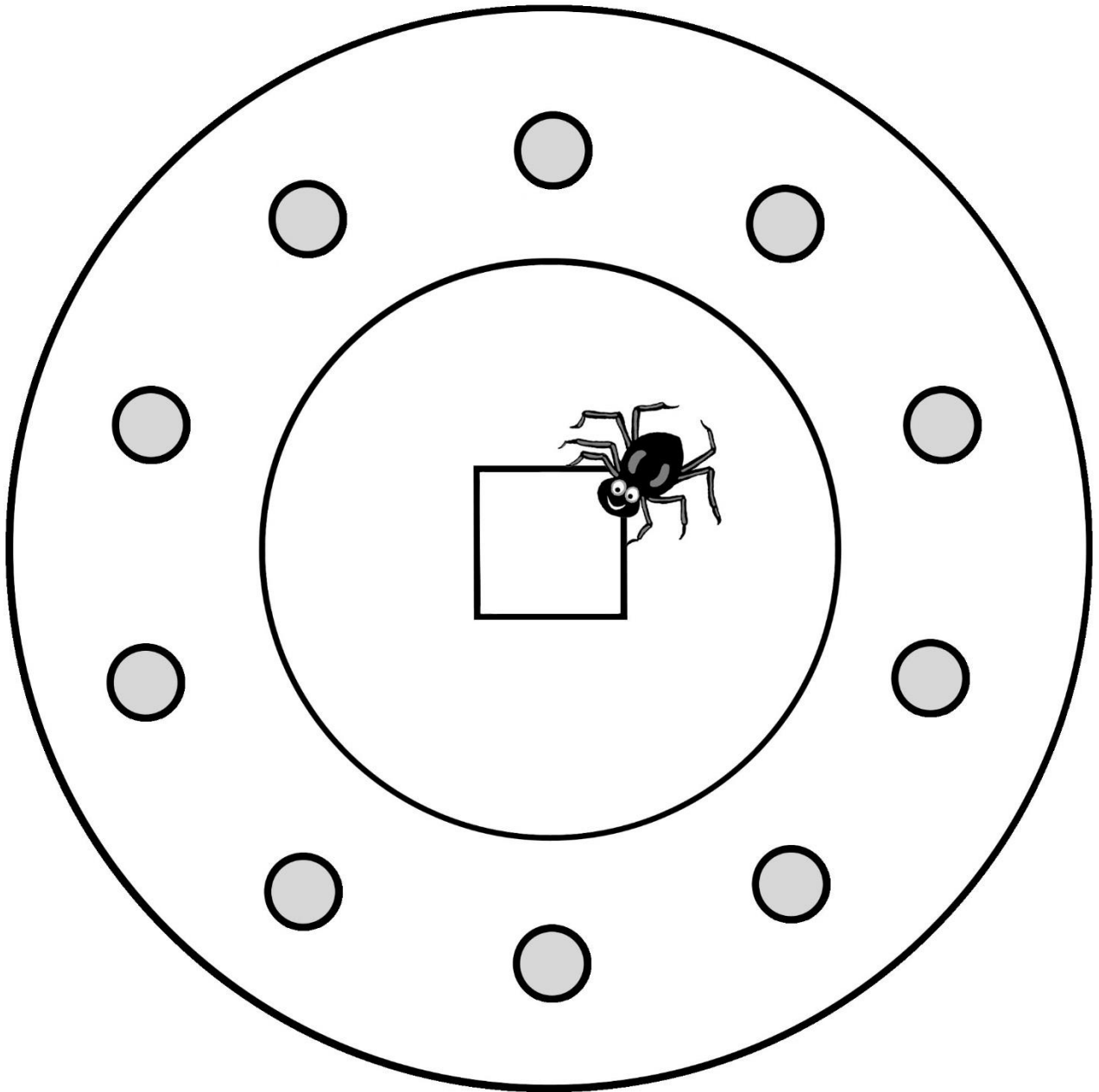
Start at 0. Skip-count by 20s.

0

40   100

160   60

20

120   140

80   20

180

Name_____ Date _____
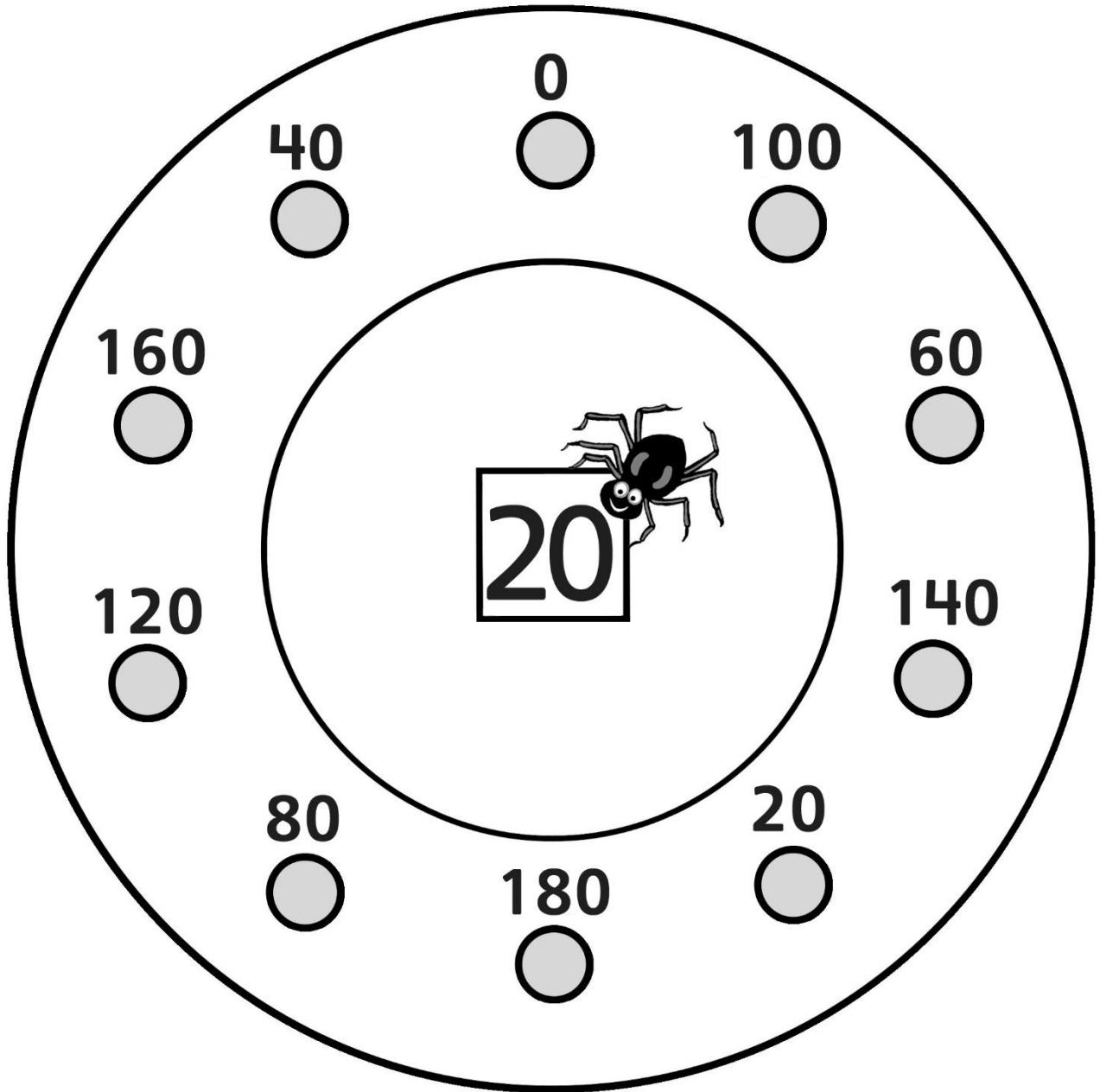
Start at 20. Skip-count by 20s.

180

120   60

20   100

20

80   160

140   40

200
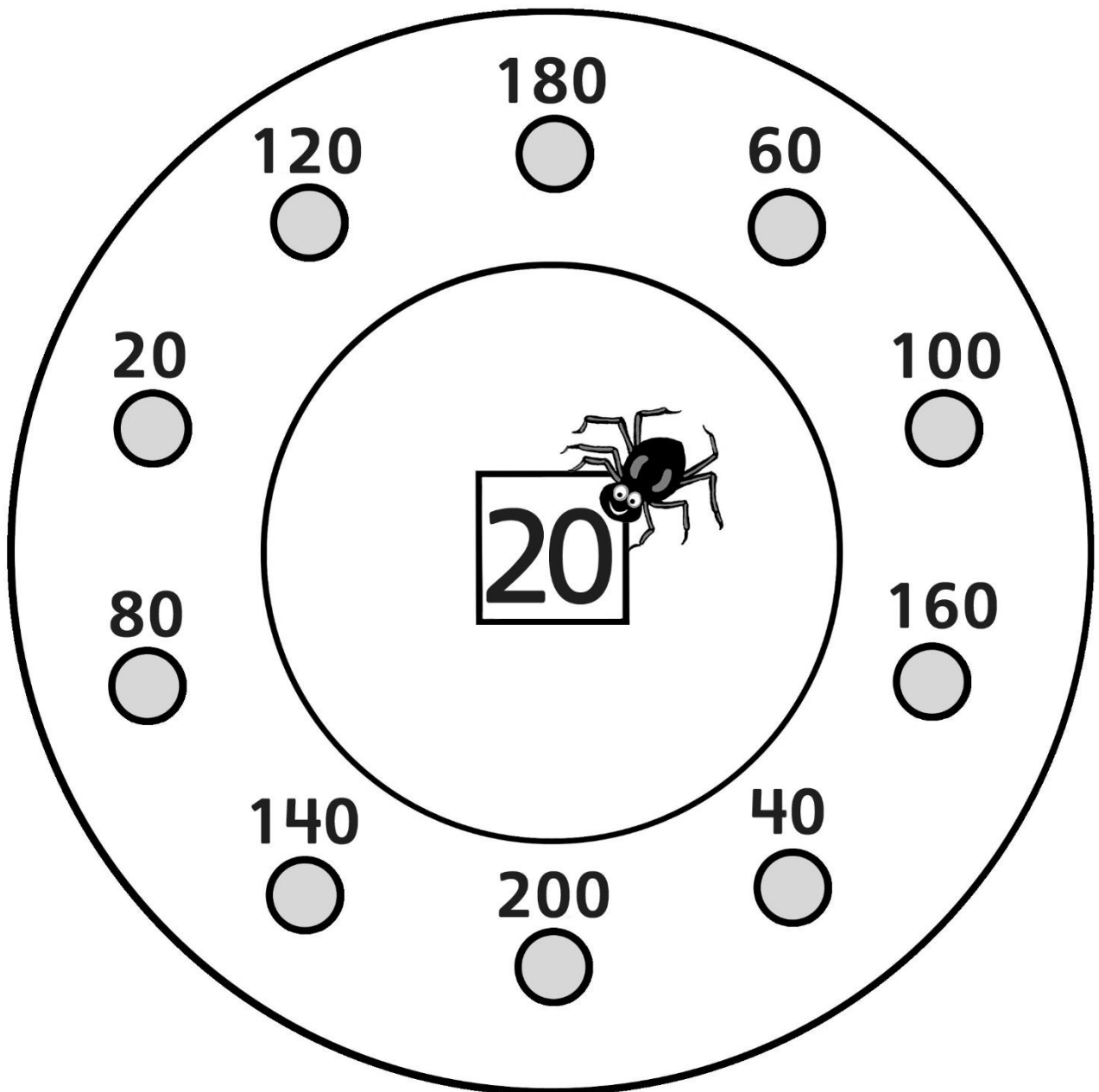
Skip-Counting by 25s Spider Webs

Start at 0. Skip-count by 25s.

Name_____ Date _____
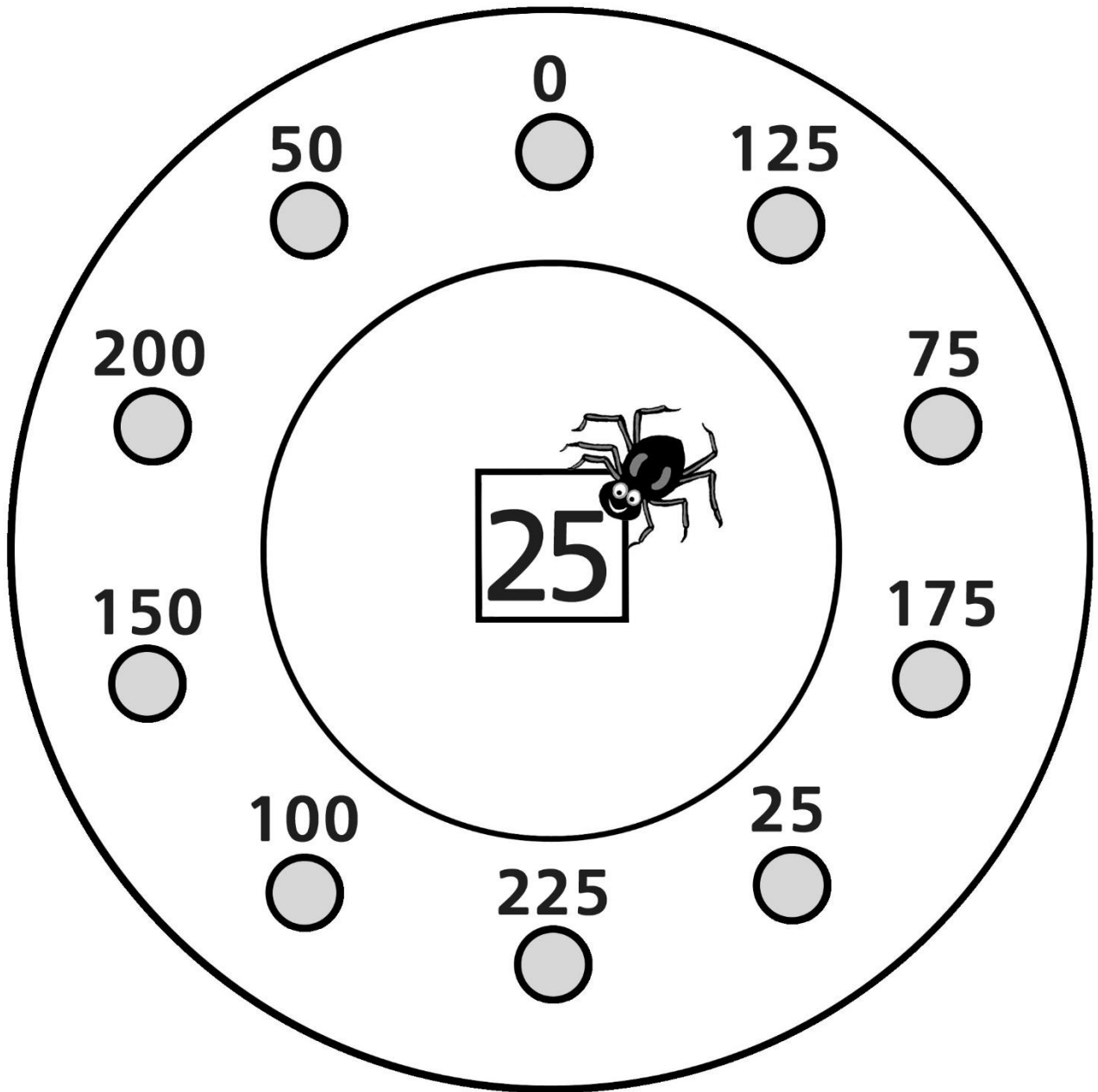
Skip-Counting by 50s Spider Webs

Start at 0. Skip-count by 50s. When you reach 200, repeat the skip-count to complete the web.
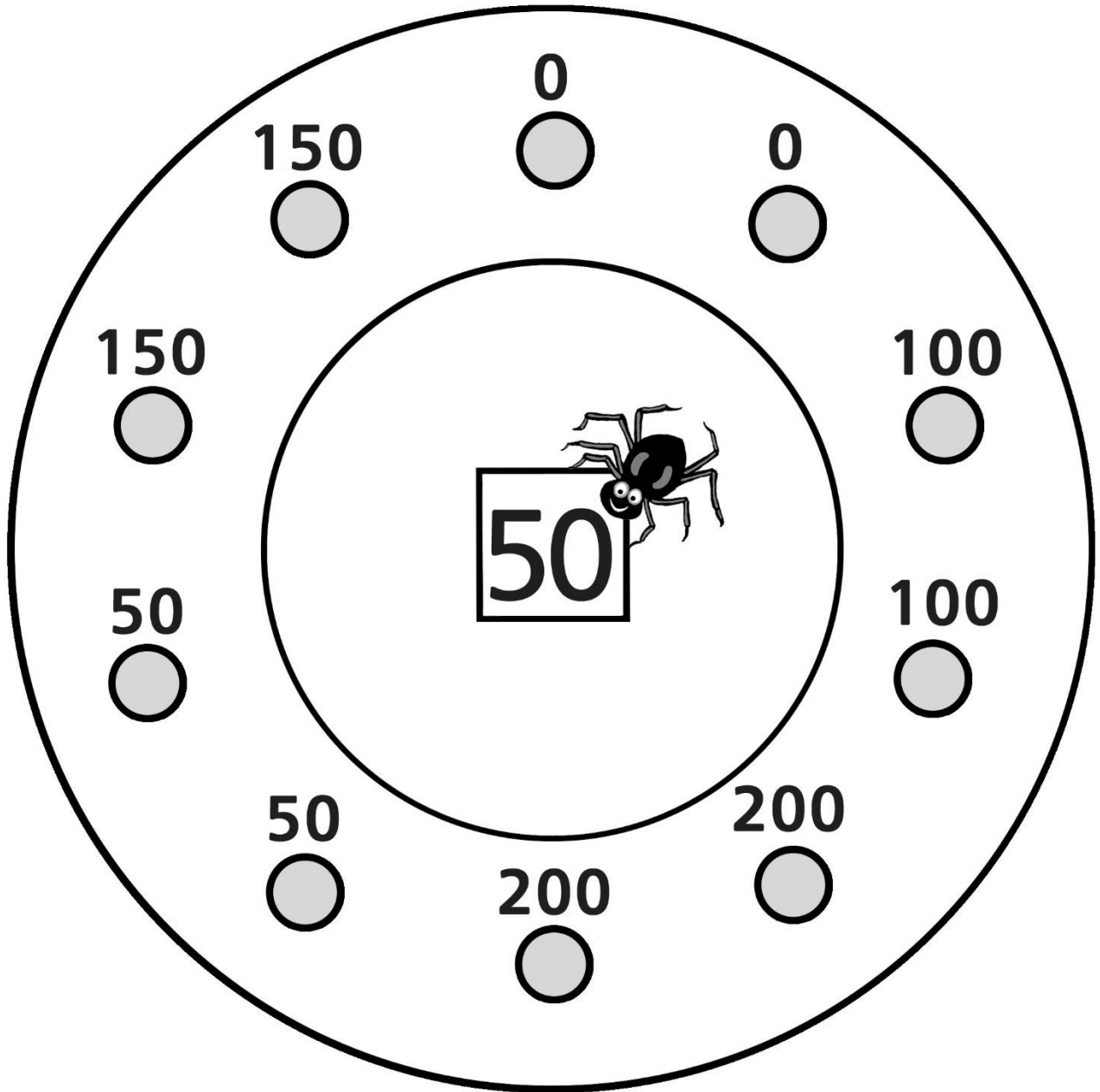
Master 13: Activity 2 Assessment
Skip-Counting Forward

Skip-Counting Forward Behaviours/Strategies		
1. Student fluently counts forward by 1s from A given number, but struggles to skip-count.	2. Student draws lines to join the numbers, but mixes up the numbers in the skip-counting sequence when skip-counting by factors of 10. 50 70 85 95 65 5 80 55 60 75 90	3. Student fluently skip-counts by 5s and 10s, but has difficulty skip-counting by 25s. "I find it hard to count by 25s."
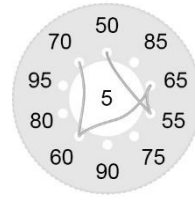
Observations/Documentation		

4. Student skip-counts by factors of 10 (e.g., 2, 5, 10), but struggles when the start number is a multiple of 2, 5, or 10. 20 140 80 200 160 20 100 40 60 120 180 "I'm not sure where to start."	5. Student fluently skip-counts by 20s, 25s, and 50s, but struggles to notice and explain patterns in the skip-counting numbers. "I don't see patterns in the numbers."	6. Student fluently skip-counts by 20s. 25s. and 50s, and notices and explains patterns in the skip-counting numbers.
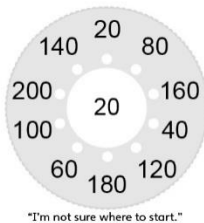
Observations/Documentation		

Name_____ Date _____

Number Cards (4 to 9)

4	5
6	7
8	q

Master 15: Activity 3 Assessment
Skip-Counting Flexibly

Skip-Counting from Any Number Behaviours/Strategies

1. Student uses correct start number, but reverts to the skip-counting from 0 sequence when skip-counting by factors of 10 (i.e., 2, 10) from any given number. "3, 10, 20, 30, …"	2. Student uses correct start number, but mixes up the numbers or omits numbers in the skip-counting sequence when skip-counting by factors of 10 from any given number. "3, 13, 33, 43, …"	3. Student skip-counts by factors of 10 from any given number and uses fingers or the hundred chart to help.
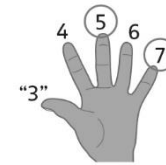
Observations/Documentation

4. Student skip-counts by 5s, 10s, and 20s from any given number, but loses track of number of times counted. "53, 73, 93, 113. Can I stop yet?"	5. Student skip-counts by 5s, 10s, and 20s from any given number, but struggles to identify errors or missing numbers in partner's skip-counting sequences. "101, 111, 122, 131, 141, …" "I'm not sure if she is correct."	6. Student fluently skip-counts 5s, 10s, and 20s from any given number. "95, 100, 105, 110, 115, …" "88, 108, 128, 148, 168, …"

Observations/Documentation

Name_____ Date _____

Skip-Counting Backward Game Cards
(Part 1)

Skip-count backward by 2s.

20, ___, ___, ___, ___, ___

Skip-count backward by 2s.

46, ___, ___, ___, ___

Skip-count backward by 2s.

14, ___, ___, ___, ___,

___, ___

Skip-count backward by 2s.

70, ___, ___, ___, ___,

___, ___, ___, ___

Skip-count backward by 2s.

88, ___, ___, ___, ___,

___, ___, ___

Skip-count backward by 2s.

34, ___, ___, ___, ___,

___, ___, ___, ___

Skip-count backward by 5s.

40, ___, ___, ___, ___, ___

Skip-count backward by 5s.

65, ___, ___, ___, ___,

___, ___, ___, ___

Skip-count backward by 5s.

70, ___, ___, ___, ___

Skip-count backward by 5s.

85, ___, ___, ___, ___,

___, ___, ___

Master 16a **Skip-Counting Backward Game Cards**
(Part 2)

Skip-count backward by 5s. 25, ___, ___, ___	Skip-count backward by 5s. 50, ___, ___, ___, ___, ___, ___
Skip-count backward by 10s. 40, ___, ___, ___	Skip-count backward by 10s. 100, ___, ___, ___, ___, ___, ___
Skip-count backward by 10s. 70, ___, ___, ___, ___	Skip-count backward by 10s. 60, ___, ___, ___, ___, ___
Skip-count backward by 10s. 90, ___, ___, ___, ___, ___, ___, ___	Skip-count backward by 10s. 50, ___, ___, ___, ___

Name_____ Date _____

Skip-Counting Backward Game Cards (Extension) (Part 1)

Skip-count backward by 2s. 120, ___, ___, ___, ___, ___	**Skip-count backward by 2s.** 144, ___, ___, ___, ___
Skip-count backward by 2s. 156, ___, ___, ___, ___, ___, ___	**Skip-count backward by 2s.** 170, ___, ___, ___, ___, ___, ___, ___, ___
Skip-count backward by 2s. 182, ___, ___, ___, ___, ___, ___, ___	**Skip-count backward by 2s.** 138, ___, ___, ___, ___, ___, ___, ___, ___
Skip-count backward by 5s. 140, ___, ___, ___, ___, ___	**Skip-count backward by 5s.** 165, ___, ___, ___, ___, ___, ___, ___, ___

Name_____ Date _____

Skip-Counting Backward Game Cards (Extension) (Part 2)

Skip-count backward by 5s.

180, ____, ____, ____, ____

Skip-count backward by 5s.

195, ____, ____, ____, ____,

____, ____, ____

Skip-count backward by 5s.

120, ____, ____, ____,

____, ____, ____

Skip-count backward by 5s.

155, ____, ____, ____, ____, ____,

____, ____, ____, ____

Skip-count backward by 10s.

140, ____, ____, ____, ____, ____

Skip-count backward by 10s.

200, ____, ____, ____, ____,

____, ____, ____, ____

Skip-count backward by 10s.

170, ____, ____, ____,

____, ____, ____

Skip-count backward by 10s.

160, ____, ____, ____, ____, ____

Skip-count backward by 10s.

190, ____, ____, ____, ____,

____, ____, ____

Skip-count backward by 10s.

150, ____, ____, ____, ____, ____

Name_____ Date _____

**Skip-Counting Backward Game Cards
(Combined Grades) (Part 1)**

Skip-count backward by 2s.

123, ___, ___, ___, ___, ___

Skip-count backward by 2s.

147, ___, ___, ___, ___

Skip-count backward by 2s.

159, ___, ___, ___, ___,

___, ___

Skip-count backward by 2s.

171, ___, ___, ___, ___, ___,

___, ___, ___,

Skip-count backward by 2s.

199, ___, ___, ___, ___,

___, ___, ___

Skip-count backward by 2s.

104, ___, ___, ___, ___, ___,

___, ___, ___, ___

Skip-count backward by 5s.

123, ___, ___, ___, ___, ___

Skip-count backward by 5s.

161, ___, ___, ___, ___, ___,

___, ___, ___

Skip-count backward by 5s.

184, ___, ___, ___, ___

Skip-count backward by 5s.

199, ___, ___, ___, ___,

___, ___, ___

Name_____ Date _____

Skip-Counting Backward Game Cards (Combined Grades) (Part 2)

Skip-count backward by 5s. 106, ___, ___, ___, ___, ___, ___, ___, ___, ___	**Skip-count backward by 5s.** 195, ___, ___, ___, ___, ___, ___
Skip-count backward by 10s. 121, ___, ___, ___, ___, ___	**Skip-count backward by 10s.** 197, ___, ___, ___, ___, ___, ___, ___, ___
Skip-count backward by 10s. 143, ___, ___, ___, ___, ___, ___, ___	**Skip-count backward by 10s.** 200, ___, ___, ___, ___, ___, ___, ___, ___, ___
Skip-count backward by 100s. 800, ___, ___, ___, ___, ___, ___, ___	**Skip-count backward by 100s.** 567, ___, ___, ___, ___, ___
Skip-count backward by 100s. 764, ___, ___, ___, ___, ___, ___	**Skip-count backward by 100s.** 999, ___, ___, ___, ___, ___, ___, ___, ___

Master 16d **Skip-Counting Backward Game Cards (Blank Cards)**

Master 17: Activity 4 Assessment
Skip-Counting Backward

Skip-Counting Backward Behaviours/Strategies		
1. Student skip-counts forward when asked to skip-count backward by factors of 10 (i.e., 2, 5, 10). "40, 50, 60, 70"	2. Student uses correct start number, but mixes up the numbers or omits numbers in the skip-counting sequence when skip-counting backward by factors of 10. "60, 40, 50, 30, 20, 10"	3. Student skip-counts backward by factors of 10 and uses fingers or the hundred chart to help.
Observations/Documentation		
4. Student skip-counts backward by factors of 10, but loses track of number of times counted. "60, 50, 40, 30. When do I stop?"	5. Student skip-counts backward by factors of 10, but struggles to decide if partner's sequence is correct. "60, 50, 40, 20, 10, 0. I'm not sure if he is correct."	6. Student fluently skip-counts backward by factors of 10 (i.e., 2, 5, 10). "60, 50, 40, 30, 20, 10" "40, 35, 30, 25, 20, 15" "20, 18, 16, 14, 12, 10"
Observations/Documentation		

Master 18a   # Counting On and Back Game Cards

Count on by 1s, **2 times**	**Count on by 1s,** **3 times**
Count on by 1s, **4 times**	**Count on by 1s,** **5 times**
Count on by 1s, **6 times**	**Count on by 1s,** **7 times**
Count on by 1s, **8 times**	**Count on by 1s,** **9 times**
Count on by 1s, **10 times**	**Count back by 1s,** **2 times**

Counting On and Back Game Cards

Count back by 1s, 2 times	**Count back by 1s, 3 times**
Count back by 1s, 4 times	**Count back by 1s, 5 times**
Count back by 1s, 6 times	**Count back by 1s, 7 times**
Count back by 1s, 8 times	**Count back by 1s, 9 times**

Name_____ Date _____

Skip-Counting by 2s Game Cards

Skip-count forward by 2s, 2 times	**Skip-count forward by 2s, 3 times**
Skip-count forward by 2s, 4 times	**Skip-count forward by 2s, 5 times**
Skip-count forward by 2s, 6 times	**Skip-count forward by 2s, 7 times**
Skip-count forward by 2s, 8 times	**Skip-count forward by 2s, 9 times**
Skip-count forward by 2s, 10 times	**Skip-count backward by 2s, 2 times**

(**Master 19b**) **Skip-Counting by 2s Game Cards**

Skip-count backward by 2s, 3 times	**Skip-count backward by 2s, 4 times**
Skip-count backward by 2s, 5 times	**Skip-count backward by 2s, 6 times**
Skip-count backward by 2s, 7 times	**Skip-count backward by 2s, 8 times**
Skip-count backward by 2s, 9 times	**Skip-count backward by 2s, 10 times**

Name_____ Date _____

Skip-Counting by 5s Game Cards

Skip-count forward by 5s, 2 times	**Skip-count forward by 5s, 3 times**
Skip-count forward by 5s, 4 times	**Skip-count forward by 5s, 5 times**
Skip-count forward by 5s, 6 times	**Skip-count backward by 5s, 2 times**
Skip-count backward by 5s, 3 times	**Skip-count backward by 5s, 4 times**
Skip-count backward by 5s, 5 times	**Skip-count backward by 5s, 6 times**

Name_____ Date _____

Skip-Counting by 5s Game Cards

Skip-count forward by 5s, 7 times	**Skip-count forward by 5s, 8 times**
Skip-count forward by 5s, 9 times	**Skip-count forward by 5s, 10 times**
Skip-count backward by 5s, 7 times	**Skip-count backward by 5s, 8 times**
Skip-count backward by 5s, 9 times	**Skip-count backward by 5s, 10 times**

Master 19e # Skip-Counting by 10s Game Cards

Skip-count forward by 10s, 1 time	**Skip-count forward by 10s, 2 times**
Skip-count forward by 10s, 3 times	**Skip-count forward by 10s, 4 times**
Skip-count forward by 10s, 5 times	**Skip-count backward by 10s, 1 time**
Skip-count backward by 10s, 2 times	**Skip-count backward by 10s, 3 times**
Skip-count backward by 10s, 4 times	**Skip-count backward by 10s, 5 times**

Master 19f   **Skip-Counting by 10s Game Cards**

Skip-count forward by 10s, 6 times	**Skip-count forward by 10s, 7 times**
Skip-count forward by 10s, 8 times	**Skip-count forward by 10s, 9 times**
Skip-count forward by 10s, 10 times	**Skip-count backward by 10s, 6 times**
Skip-count backward by 10s, 7 times	**Skip-count backward by 10s, 8 times**
Skip-count backward by 10s, 9 times	**Skip-count backward by 10s, 10 times**

Name_____ Date _____

Skip-Counting by 20s Game Cards

Skip-count forward by 20s, 1 time	**Skip-count forward by 20s, 2 times**
Skip-count forward by 20s, 3 times	**Skip-count forward by 20s, 4 times**
Skip-count forward by 20s, 5 times	**Skip-count backward by 20s, 1 time**
Skip-count backward by 20s, 2 times	**Skip-count backward by 20s, 3 times**
Skip-count backward by 20s, 4 times	**Skip-count backward by 20s, 5 times**

Name_____ Date _____

Skip-Counting by 25s and 50s
Game Cards

Skip-count forward by 25s, 1 time	**Skip-count forward by 25s, 2 times**
Skip-count forward by 25s, 3 times	**Skip-count forward by 25s, 4 times**
Skip-count forward by 25s, 5 times	**Skip-count forward by 25s, 6 times**
Skip-count forward by 25s, 7 times	**Skip-count forward by 50s, 1 time**
Skip-count forward by 50s, 2 times	**Skip-count forward by 50s, 3 times**

Name_____ Date _____
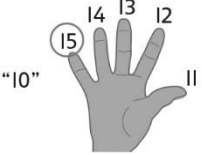
Skip-Counting Game Cards

(Blank Cards)

Counting On and Back Behaviours/Strategies

1. Student uses correct start number, but omits numbers or mixes up the order when saying the number name sequences forward and backward. "11, 12, 14, 16, 17"	2. Student says the number name sequences forward and backward from a given number, but relies on the hundred chart. 21 22 (23) 24 25 26 27 28 29 30 "24, 25, 26, 27, 28, 29"	3. Student says number name sequences forward and backward from a given number, but struggles to bridge tens or hundreds. "Ninety-nine, one-ten, one-eleven"	4. Student says the number name sequences forward and backward from a given number and uses number patterns to bridge tens and hundreds.

Observations/Documentation

Skip-Counting Forward and Backward Behaviours/Strategies

1. Student uses correct start number, but mixes up the numbers or omits numbers when skip-counting forward and backward by factors of 10. "5, 10, 20, 25, 35"	2. Student skip-counts forward by factors of 10, but struggles to skip-count backward. "It is much easier to skip-count forward."	3. Student skip-counts forward and backward by factors of 10, but uses fingers or the hundred chart to help. 14 13 12 (15) "10" 11	4. Student fluently skip-counts forward and backward by multiples of 5 (e.g., 5, 10, 20, 25, 50) to 200. "80, 60, 40, 20, 0" "50, 75, 100, 125, 150" "200, 150, 100, 50, 0"

Observations/Documentation

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **N1 Quantity Relationships:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢ **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points **Cross Strand:** Patterning and Algebra **P2 Expressions and Equality:** demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18			
N1.1 represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools **N1.2** read and print in words whole numbers to twenty, using meaningful contexts **N1.3** compose and decompose two-digit numbers in a variety of ways, using concrete materials **N1.4** determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (N1.1, N2.1) 7: Ordering Quantities (N1.1, N2.1) 8: Odd and Even Numbers (N1.1, N2.1) 9: Ordinal Numbers 10: Estimating with Benchmarks 11: Decomposing to 20 (N1.3, N2.1, P2.1) 12: Number Relationships 1 Consolidation (N1.1, N1.3, N1.4, N2.1, P2.1) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (N1.1, N1.3, P2.1)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Ontario (continued)

N2.1 Count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 **N2.3** locate whole numbers to 100 on a number line and on a partial number line **P2.1** demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials	Guess My Number (N1.1, N1.3) **Card 2B:** Math Commander (N1.1, N1.3, N1.4, N2.3) Building an Open Number Line (N1.1, N1.3, N1.4, N2.3)	**Above Grade:** • Math Makes Me Laugh (Activity 6) • Fantastic Journeys (Activities 6, 7, 10, 12) • Finding Buster (Activity 11) • How Numbers Work (Activity 11)	**Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)
			Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., $2 + 4 = 5 + 1$). (Activities 11, 12)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Numbers to 100 represent quantities that can be decomposed into 10s and 1s. **Cross Strand:** Patterns and Relations			
N1 Number concepts to 100 Counting: • **N1.1** skip-counting by 2, 5, and 10: – **N1.1b** increasing and decreasing (forward and backward) • **N1.2** Quantities to 100 can be arranged and recognized – **N1.2a** comparing and ordering numbers to 100 – **N1.2b** benchmarks of 25, 50, and 100 • **N1.3** Even and odd numbers **N2 Benchmarks of 25, 50, and 100 and personal referents** • **N2.1** Seating arrangements at ceremonies/feasts	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (N1.2, N1.2a) 7: Ordering Quantities (N1.2, N1.2a, N1.2b) 8: Odd and Even Numbers (N1.3) 9: Ordinal Numbers 10: Estimating with Benchmarks (N1.2, N1.2b, N2, N2.1) 11: Decomposing to 20 (N1.1b, N3.2) 12: Number Relationships 1 Consolidation (N1.2, N1.2a, N1.2b, N1.3, N2, N4.1, N4.2) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (N1.2, N1.2a, N1.3, N3.2, N4.1)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12) **Above Grade:** • Math Makes Me Laugh (Activity 6)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

British Columbia/Yukon Territories (continued)

N3 Addition and subtraction facts to 20 (introduction of computational strategies) • **N3.2** fluency with math strategies for addition and subtraction (e.g., making or bridging 10, decomposing, identifying related doubles, adding on to find the difference) **N4 Addition and subtraction to 100** • **N4.1** Decomposing numbers to 100 • **N4.5** using an open number line, hundred chart, ten-frames	Guess My Number (N1.2, N1.2a, N1.3) **Card 2B:** Math Commander (N1.3) Building an Open Number Line (N1.2, N1.2a, N1.2b, N2, N4.5)	• Fantastic Journeys (Activities 6, 7, 10, 12) • Finding Buster (Activity 11) • How Numbers Work (Activity 11)	**Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)
			Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 11, 12)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations:** Represent algebraic expressions in multiple ways			
N1 Say the number sequence from 0 to 100 by: • **N1a** 2s, 5s and 10s, forward and backward, using starting points that are multiples **N2** Demonstrate if a number (up to 100) is even or odd. **N3** Describe order or relative position, using ordinal numbers (up to tenth). **N4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **N5** Compare and order numbers up to 100. **PR3** Demonstrate and explain the meaning of equality and inequality	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (N5) 7: Ordering Quantities (N5) 8: Odd and Even Numbers (N2) 9: Ordinal Numbers (N3) 10: Estimating with Benchmarks (N6) 11: Decomposing to 20 (N1a, N4, PR3) 12: Number Relationships 1 Consolidation (N2, N3, N4, N5, PR3) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (N2, N4, N5) Guess My Number (N2, N4, N5) **Card 2B:** Math Commander (N2, N3)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12) **Above Grade:** • Math Makes Me Laugh (Activity 6) • Fantastic Journeys (Activities 6, 7, 10, 12)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

New Brunswick/Prince Edward Island/Newfoundland and Labrador (continued)

by using manipulatives and diagrams (0-100).	Building an Open Number Line (N4, N5)	• Finding Buster (Activity 11) • How Numbers Work (Activity 11)	**Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.**
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Operations of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., $2 + 4 = 5 + 1$). (Activities 11, 12)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** Patterns and Relations: Represent algebraic expressions in multiple ways			
2.N.2 Demonstrate if a number (up to 100) is even or odd. **2.N.3** Describe order or relative position using ordinal numbers. **2.N.4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **2.N.5** Compare and order numbers up to 100. **2.N.6** Estimate quantities to 100 using referents.	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (2.N.5) 7: Ordering Quantities (2.N.5) 8: Odd and Even Numbers (2.N.2) 9: Ordinal Numbers (2.N.3) 10: Estimating with Benchmarks (2.N.6) 11: Decomposing to 20 (2.N.4) 12: Number Relationships 1 Consolidation (2.N.4, 2.N.5) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (2.N.2, 2.N.4) Guess My Number (2.N.2, 2.N.4, 2.N.5) **Card 2B:** Math Commander (2.N.2, 2.N.3) Building an Open Number Line (2.N.4, 2.N.5)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12) **Above Grade:** • Math Makes Me Laugh (Activity 6) • Fantastic Journeys (Activities 6, 7, 10, 12)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10) **Decomposing Wholes into Parts and Composing Wholes from Parts**

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Manitoba (continued)

		• Finding Buster (Activity 11) • How Numbers Work (Activity 11)	- Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)
			Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Operations of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., $2 + 4 = 5 + 1$). (Activities 11, 12)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense. **Cross Strand** **Patterns and Relations:** Students will be expected to represent algebraic expressions in multiple ways.			
N01 Students will be expected to say the number sequence by • **N01b** 2s, forward and backward, starting from any point to 100 **N02** Students will be expected to demonstrate if a number (up to 100) is even or odd. **N03** Students will be expected to describe order or relative position using ordinal numbers (up to tenth). **N04** Students will be expected to represent and partition numbers to 100. **N05** Students will be expected to compare and order numbers up to 100.	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (N05) 7: Ordering Quantities (N05) 8: Odd and Even Numbers (N02) 9: Ordinal Numbers (N03) 10: Estimating with Benchmarks (N06) 11: Decomposing to 20 (N01b, N04, PR03) 12: Number Relationships 1 Consolidation (N02, N03, N04, N05, PR03) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (N02, N04, N05) Guess My Number (N02, N04, N05) **Card 2B:** Math Commander (N02, N03)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12) **Above Grade:** • Math Makes Me Laugh (Activity 6) • Fantastic Journeys (Activities 6, 7, 10, 12)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Nova Scotia (continued)

N06 Students will be expected to estimate quantities to 100 by using referents. **PR03** Students will be expected to demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100).	Building an Open Number Line (N04, N05)	• Finding Buster (Activity 11) • How Numbers Work (Activity 11)	**Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.**
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Operations of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 11, 12)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense. **Cross Strand:** **Patterns and Relations:** Represent algebraic expressions in multiple ways.			
Number **1.** Say the number sequence 0 to 100 by: • **1a.** 2s, 5s, and 10s, forward and backward, using starting points that are multiples of 2, 5, and 10 respectively. **2.** Demonstrate if a number (up to 100) is even or odd. **3.** Describe order or relative position using ordinal numbers (up to tenth). **4.** Represent and describe numbers to 100, concretely, pictorially and symbolically. **5.** Compare and order numbers up to 100.	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (N5) 7: Ordering Quantities (N5) 8: Odd and Even Numbers (N2) 9: Ordinal Numbers (N3) 10: Estimating with Benchmarks (N6) 11: Decomposing to 20 (N1a, N4, N10, PR4) 12: Number Relationships 1 Consolidation (N2, N3, N4, N5, N10, PR4) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (N2, N4, N5) Guess My Number (N2, N4, N5) **Card 2B:** Math Commander (N2, N3)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12) **Above Grade:** • Math Makes Me Laugh (Activity 6) • Fantastic Journeys (Activities 6, 7, 10, 12)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Alberta/Northwest Territories/Nunavut (continued)

6. Estimate quantities to 100, using referents. **10.** Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18. **Patterns and Relations** **4.** Demonstrate and explain the meaning of equality and inequality, concretely and pictorially.	Building an Open Number Line (N4, N5)	• Finding Buster (Activity 11) • How Numbers Work (Activity 11)	**Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)
			Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Operations of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 11, 12)

Curriculum Correlation
Number Cluster 2: Number Relationships 1

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour			
N2.1 Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • **N2.1a representing (including place value)** • N2.1b describing • **N2.1c skip counting** • **N2.1d differentiating between odd and even numbers** • **N2.1e estimating with referents** • **N2.1f comparing two numbers** • **N2.1g ordering three or more numbers**	**Below Grade: Intervention** 3: My 10 Bracelet 4: Who Has More? **On Grade: Teacher Cards** 6: Comparing Quantities (N2.1f) 7: Ordering Quantities (N2.1f, N2.1g) 8: Odd and Even Numbers (N2.1d) 9: Ordinal Numbers (N2.1a) 10: Estimating with Benchmarks (N2.1e) 11: Decomposing to 20 (N2.1a, N2.1c) 12: Number Relationships 1 Consolidation (N2.1a, N2.1d, N2.1f, N2.1g) **On Grade: Math Every Day Card 2A:** Show Me in Different Ways (N2.1a, N2.1d, N2.1f) Guess My Number (N2.1a, N2.1d, N2.1f) **Card 2B:** Math Commander (N2.1a, N2.1d)	**Below Grade:** • Paddling the River (Activities 6, 7, 11, 12) • A Family Cookout (Activities 6, 7, 10) • At the Corn Farm (Activity 10) • Canada's Oldest Sport (Activities 11, 12) **On Grade:** • What Would You Rather? (Activities 6, 7, 10, 12) • The Great Dogsled Race (Activities 6, 7) • Back to Batoche (Activity 7) • Ways to Count (Activities 8, 10) • Family Fun Day (Activities 11, 12) **Above Grade:** • Math Makes Me Laugh (Activity 6) • Fantastic Journeys (Activities 6, 7, 10, 12) • Finding Buster (Activity 11)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activity 11) - Names, writes, and matches numerals to numbers and quantities to 10. (MED 2B: 2) - Names, writes, and matches two-digit numerals to quantities. (MED 2B: 2) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 6, 7, 12; MED 2A: 2, MED 2B: 4) - Determines how many more/less one quantity is compared to another. (Activities 6, 12; MED 2A: 1, 2) - Determines and describes the relative position of objects using ordinal numbers. (Activities 9, 12; MED 2B: 1) - Uses ordinal numbers in context. (Activities 9, 12; MED 2B: 1) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activity 10) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 11, 12; MED 2A: 1, 2)

Saskatchewan (continued)

	Building an Open Number Line (N2.1a, N2.1g)	• How Numbers Work (Activity 11)	**Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.**
			Unitizing Quantities and Comparing Units to the Whole - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones. (Activities 8, 12)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Understanding Equality and Inequality, Building on Generalized Operations of Numbers and Operations - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 11, 12)

Name_____ Date _____

Compare your objects.

Who used more cubes? _____

How many more? _____

Show how you found out.

Complete one of these sentences.

I used _____ more cubes than _____.

I used _____ fewer cubes than _____.

Master 23: Activity 6 Assessment
Comparing Quantities

Comparing Quantities Behaviours/Strategies

1. Student perceptually compares quantities, comparing based on "how things look." "Mine has more because it looks bigger."	2. Student compares quantities using one-to-one matching or counting (takes objects apart).	3. Student compares quantities using grouping (groups cubes together to make towers). "This one is taller, so it has more cubes."	4. Student efficiently compares quantities using benchmarks of 5 and 10.
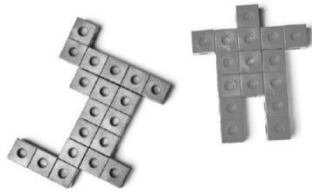
Observations/Documentation

Finding How Many More or Less Behaviours/Strategies

1. Student builds objects, but struggles to determine how many more one quantity is compared to the other. "I don't know how many more."	2. Student determines how many more/less by grouping (groups cubes to make trains and then aligns the trains). "1, 2, 3"	3. Student determines how many more/less using counting (finds distance between numbers on a number line or hundred chart). "1, 2, 3, 4, 5" 11 12 13 14 15 16 17 18	4. Student successfully compares quantities and determines how many more/less one quantity is compared to another (e.g., counts on or back, tracking with fingers). "13, 14, 15, 16, 17" "It has 5 more cubes."
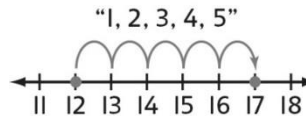
Observations/Documentation

Master 24: Activity 7 Assessment
Ordering Quantities

Comparing and Ordering Behaviours/Strategies

1. Student makes two-digit numbers, but struggles to name them. 23 56 "Two three and five six."	2. Student models numbers with objects, but is unable to coordinate number words with counting actions (does not say one word for each object). "3, 4"	3. Student makes two-digit numbers, but places them randomly on the cards without giving any thought to order. 34 12 36	4. Student compares and orders quantities using one-to-one matching (models numbers with counters).
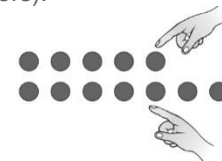
Observations/Documentation

5. Student compares and orders quantities using counting (models numbers with counters). "1, 2, 3, 4, 5" "1, 2, 3, 4, 5, 6, 7"	6. Student compares and orders written numbers using benchmarks. 14 23 32 "I compared 14 and 23 to 20, and 23 and 32 to 30."	7. Student successfully compares and orders written numbers using benchmarks, but uses comparative language incorrectly. 32 54 63 "63 is less than 32."	8. Student successfully compares and orders written numbers using benchmarks and uses comparative language correctly.
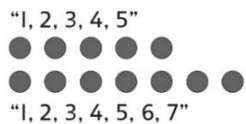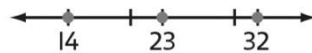
Observations/Documentation

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My Lock is Stuck!

Plot the 4 codes on the number line.

100 110 120 130 140 150 160 170 180 190 200

Circle the correct code.

Thanks for helping me open my lock!

Name_____ Date _____

My Lock is Stuck! (Accommodation)

Write 4 codes between 10 and 99.

Plot the 4 codes on the number line.

0   10   20   30   40   50   60   70   80   90   100

Circle the correct code.

Thanks for helping me open my lock!

Master 25c **My Lock is Stuck! (Extension)**

Write 3 codes less than 150 and 3 codes greater than 150.
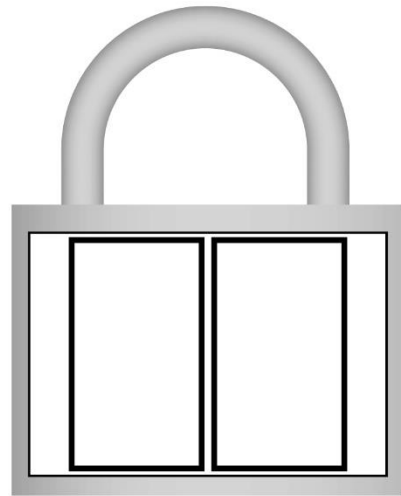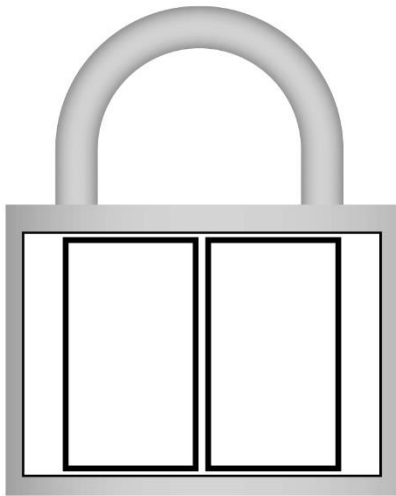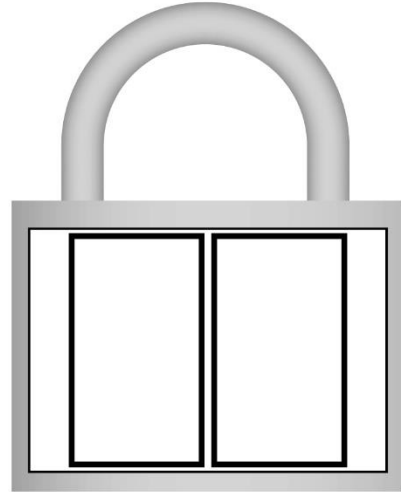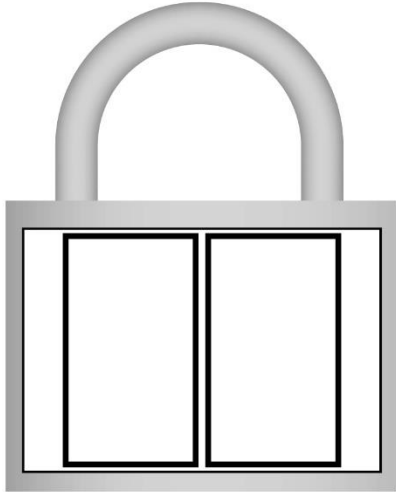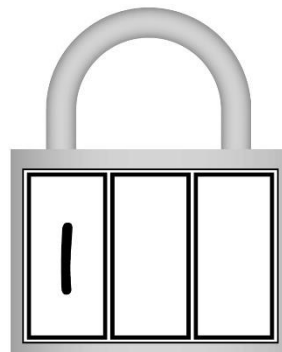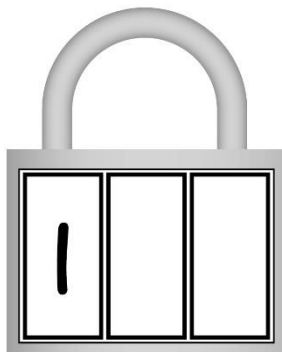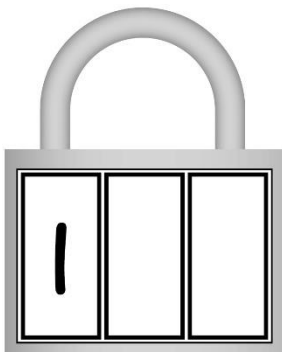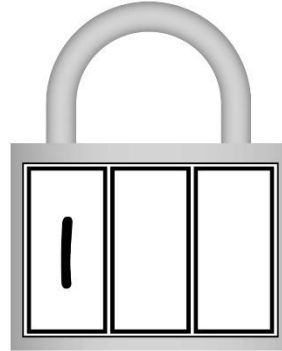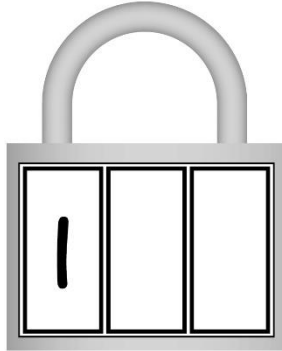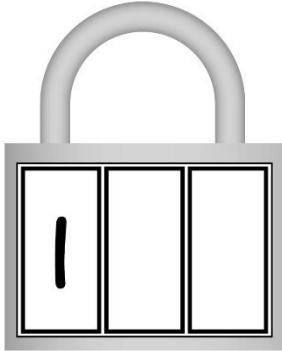
Plot the 6 codes on the number line.

Circle the correct code.

Thanks for helping me open my lock!

My Lock is Stuck! (Combined Grades)

Write 6 codes between 100 and 999.

Plot the 6 codes on the number line.

100 200 300 400 500 600 700 800 900 1000
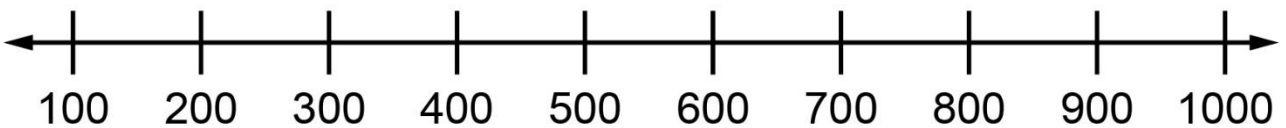
Circle the correct code.

Thanks for helping me open my lock!

Master 26: Activity 8 Assessment
Comparing and Ordering Numbers to 200

Comparing and Ordering Numbers to 200 Behaviours/Strategies

1. Student makes 3-digit numbers but doesn't know whether a number is greater than or less than 150. "I don't know which one is greater than 150."	2. Student makes 3-digit numbers, but struggles to place them accurately on the number line. 128 ... 165 120 130 140 150 160 170	3. Student models numbers with manipulatives to help order on number line. 128 165
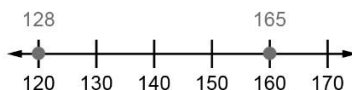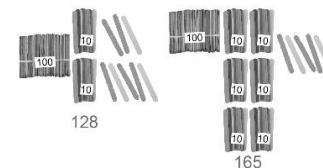
Observations/Documentation

4. Student recites counting sequence or uses hundred chart to order numbers. 121 122 123 124 125 126 127 (128) 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 (165) 166 167 168 169 170 "165 is greater because it is farther down on the hundred chart."	5. Student compares, digit by digit. **128** **165** "Both have 1 hundred. 128 has 2 tens and 165 has 6 tens. So, 165 is greater than 128."	6. Student successfully uses benchmarks to compare and order. 128 135 ... 165 174 120 130 140 150 160 170 180 "The numbers from least to greatest are: 128, 135, 165, 174."
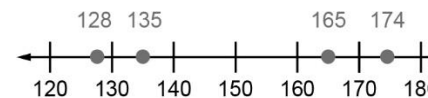
Observations/Documentation

Name_____ Date _____

Number Cards (1–20)

1	2
3	4
5	6
7	8
q	10

✂
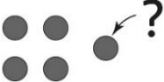
Number Cards (1–20)

11	12
13	14
15	16
17	18
19	20

Identifying Even and Odd Numbers Behaviours/Strategies		
1. Student turns over a card and reads the number, but struggles to say the number sequence starting with 1 and counting forward. "…, 5, 7, 6, 8, 9"	2. Student says the number sequence forward, but struggles to coordinate number words with counting actions (e.g., says the number word between each "touch," or does not say one number word for each counter counted). "One"	3. Student partitions counters into groups of 2, but struggles to identify even numbers.
Observations/Documentation		
4. Student partitions counters into groups of 2, but struggles to identify odd numbers (ignores the leftover counter or does not know what to do with it).	5. Student partitions counters into groups of 2 and successfully identifies even and odd numbers, but struggles to explain why a number is even or odd. "I know it is odd because it isn't even."	6. Student partitions counters into groups of 2, successfully identifies even and odd numbers, and explains why the numbers are even or odd.
Observations/Documentation		

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Name_____ Date _____

How Many in the Jar? **Recording Sheet**

Object	Estimate	Number in Jar

Name_____ Date _____

Object	Estimate	Number in Sky

Name_____   Date _____

How Many in the Sky?

Ten birds are circled in this photo. Use this as a benchmark to estimate how many birds are in the sky. Count the birds to check your estimate.
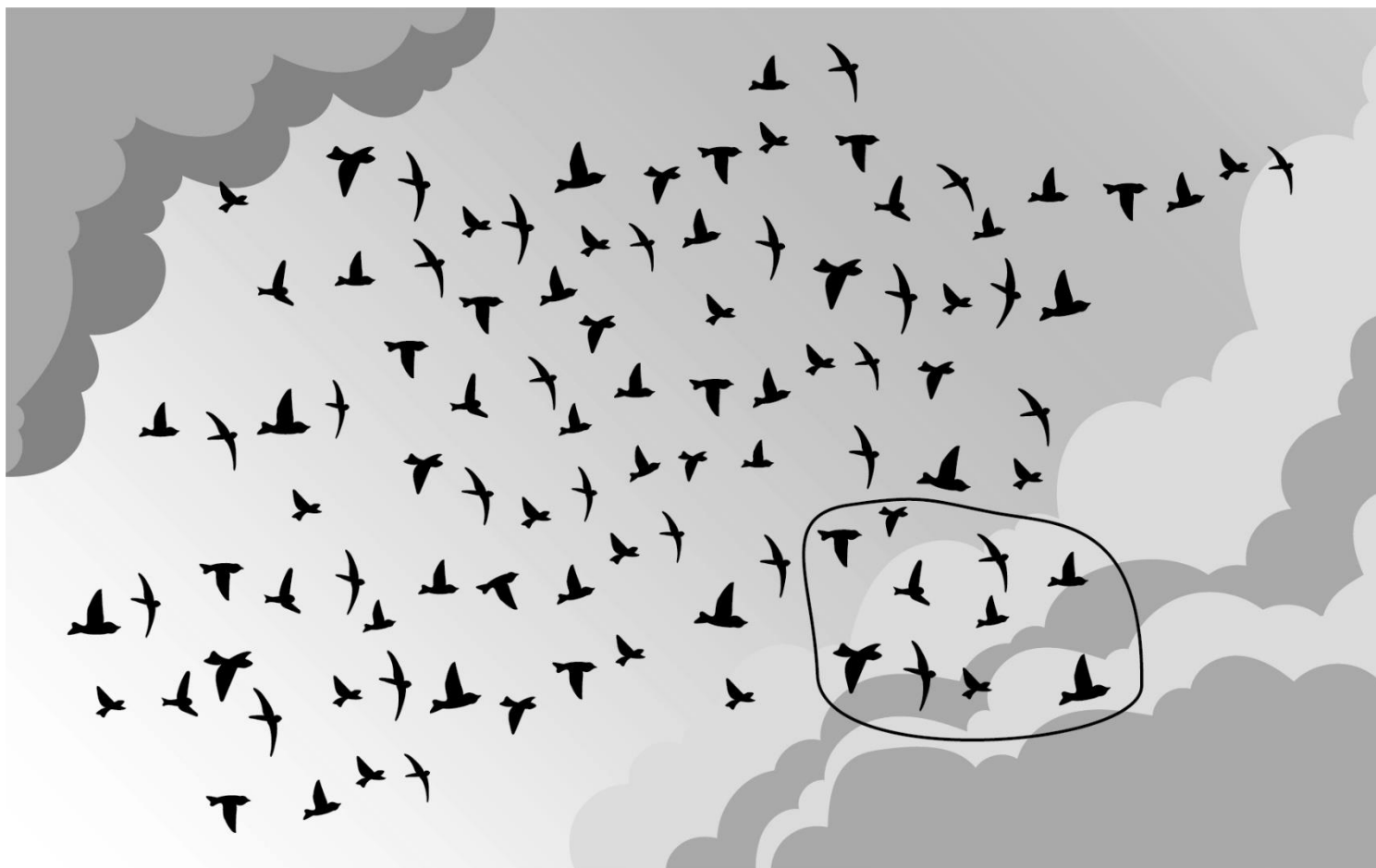
How Many in the Sky?

Twenty-five butterflies are circled in this photo. Use this as a benchmark to estimate how many butterflies are in the sky. Count the butterflies to check your estimate.

Master 31: Activity 10 Assessment
Estimating with Benchmarks

Estimating Using Benchmarks Behaviours/Strategies

1. Student guesses instead of using a benchmark of 10 to estimate. "I guess 100 marbles."	2. Student counts instead of using a benchmark of 10 to estimate. "I see about 1, 2, 3, ..., 10, 11, 12 marbles."	3. Student tries to use a benchmark of 10 to estimate, but struggles to visualize groups of 10 in the jar. "I don't know how many groups of 10 there are."	4. Student uses a benchmark of 10 to estimate, but does not use previous estimates to help.
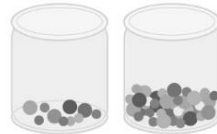
Observations/Documentation

5. Student uses a benchmark of 10 to successfully estimate quantities of one size of object, but struggles when the size of the object changes. 80 80	6. Student uses a benchmark of 10 to successfully estimate quantities, but struggles to explain the strategies used.	7. Student uses benchmarks of 10, 20, and 25 to successfully estimate quantities, but is unable to explain how the estimates compare to the actual amounts.	8. Student uses benchmarks of 10, 20, and 25 to successfully compare and estimate quantities and explains strategies used.
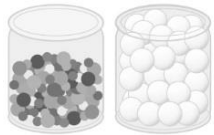
Observations/Documentation

Name_____ Date _____

Task Cards: Odd or Even Numbers

Name 3 even numbers greater than 15.	**Name 3 odd numbers less than 24.**
Name 3 even numbers greater than 33.	**Name 3 odd numbers less than 43.**

Name_____ Date _____

Task Cards: Odd or Even Numbers
(for Accommodations)

Name 2 even numbers greater than 4.	**Name 2 odd numbers less than 10.**

Name_____ Date _____

Order these numbers
from least to greatest:

125, 139, 120

Order these numbers
from greatest to least:

137, 141, 132

Name 2 numbers
greater than 122 and
less than 130.

Name 2 numbers
less than 140 and
greater than 128.

Which is the greater
number?
By how much?

163, 172

Which is the lesser
number?
By how much?

187, 191

Name_____ Date _____

Task Cards: Comparing and Ordering (for Accommodations)

Order these numbers from least to greatest:

7, 12, 5

Order these numbers from greatest to least:

10, 6, 9

Name a number greater than 7 and less than 10.

Name a number less than 12 and greater than 8.

**Which is the greater number?
By how much?**

10, 7
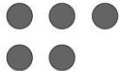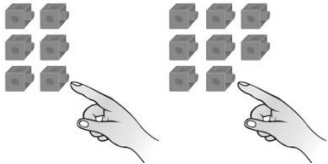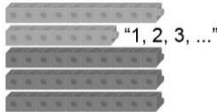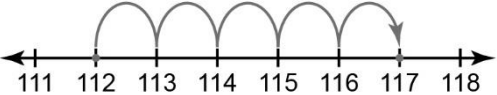
**Which is the lesser number?
By how much?**

6, 11

Number Relationships Behaviours/Strategies		
1. Student partitions quantities into groups of 2, but struggles to identify even and odd numbers. "I know I have to make pairs, but then what?"	2. Student compares and orders quantities using one-to-one matching or counting (models numbers with concrete materials).	3. Student compares and orders written numbers using benchmarks. "I know 25 is less than 30 and 39 is greater than 30. So, 39 is greater than 25."

Observations/Documentation		

4. Student determines how many more/less by grouping (groups cubes to make trains and then aligns the trains). "1, 2, 3, ..."	5. Student determines how many more/less using counting (finds distance between numbers on a number line or hundred chart). "1, 2, 3, 4, 5" 111 112 113 114 115 116 117 118	6. Student performs number relationship tasks with ease and communicates thinking using math language.

Observations/Documentation		

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **N1 Quantity Relationships:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢ **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points **Cross strand:** Patterning and Algebra **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns			
N1.1 represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools **N1.3** compose and decompose two-digit numbers in a variety of ways, using concrete materials **N2.1** Count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 **N2.2** count backwards by 1's from 50 and any number less than 50, and count backwards by 10's	**Below Grade: Intervention** 5: Adding Tens 6: Taking Away Tens **On Grade: Teacher Cards** 13: Building Numbers (N1.1, N1.3) 14: Making a Number Line (N1.1, N2.1, N2.2, N2.3, P1.1) 15: Grouping to Count (N1.1, N1.3, N2.1) 16: Grouping and Place Value Consolidation (N1.1, N1.3, N2.1) **On Grade: Math Every Day Card 3A:** Adding Ten (N2.1, P1.1) Taking Away Ten (N2.2, P1.1) **Card 3B:** Thinking Tens (N1.3, N2.9, N2.2) Describe Me (N1.3)	**Below Grade:** • At the Corn Farm (Activity 13) • How Many Is Too Many? (Activities 15, 16) **On Grade:** • Back to Batoche (Activity 13) • A Class-full of Projects (Activities 13, 16) • The Money Jar (Activity 13) • Ways to Count (Activities 15, 16) • Family Fun Day (Activity 15) • What Would You Rather? (Activities 15, 16) **Above Grade:** • How Numbers Work (Activities 13, 16)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2) - Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16)

Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Ontario (continued)

from 100 and any number less than 100, using number lines and hundreds charts **N2.3** locate whole numbers to 100 on a number line and on a partial number line **P1.1** identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart		• Hockey Homework (Activity 15)	- Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Ideas Numbers to 100 represent quantities that can be decomposed into 10s and 1s. Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value.			

N1 Number concepts to 100
Counting:
• **N1.1** skip-counting by 2, 5, and 10:
  – **N1.1a** using different starting points
  – **N1.1b** increasing and decreasing (forward and backward)
• **N1.2** Quantities to 100 can be arranged and recognized
  – **N1.2a** comparing and ordering numbers to 100
  – **N1.2c** understanding of 10s and 1s
  – **N1.2d** understanding the relationship between digit places and their value, to 99
  – **N1.2e** decomposing two-digit numbers into 10s and 1s
 	
N4 Addition and subtraction to 100
• **N4.5** using an open number line, hundred chart, ten-frames
	Below Grade: Intervention
	5: Adding Tens
	6: Taking Away Tens
	
	On Grade: Teacher Cards
	13: Building Numbers (N1.2c, N1.2d, N1.2e)
	14: Making a Number Line (N1.1, N1.1a, N1.1b, N1.2a)
	15: Grouping to Count (N1.1, N1.1b)
	16: Grouping and Place Value Consolidation (N1.1, N1.1a, N1.1b, N1.2c, N1.2d, N1.2e)
	
	On Grade: Math Every Day
	Card 3A:
	Adding Ten (N1.1, N1.1a, N1.1b, N4.5)
	Taking Away Ten (N1.1, N1.1a, N1.1b, N4.5)
		Below Grade:
		• At the Corn Farm (Activity 13)
		• How Many Is Too Many? (Activities 15, 16)
		
		On Grade:
		• Back to Batoche (Activity 13)
		• A Class-full of Projects (Activities 13, 16)
		• The Money Jar (Activity 13)
		• Ways to Count (Activities 15, 16)
		• Family Fun Day (Activity 15)
		• What Would You Rather? (Activities 15, 16)
		
		Above Grade:
		• How Numbers Work (Activities 13, 16)
		• Hockey Homework (Activity 15)
			Big Idea: Numbers tell us how many and how much.
			Applying the Principles of Counting
			- Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16)
			
			Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.
			Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)
			- Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2)
			- Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1)
			Unitizing Quantities and Comparing Units to the Whole
			- Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16)
			- Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16)
			- Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16)

Curriculum Correlation
Number Cluster 3: Grouping and Place Value

British Columbia/Yukon Territories (continued)

	Card 3B: Thinking Tens (N1.2c, N1.2d, N1.2e) Describe Me (N1.2c, N1.2d, N1.2e)		**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.**
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations:** Use patterns to describe the world and solve problems			
N1 Say the number sequence from 0 to 100 by: • **N1a** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • **N1b** 10s using starting points from 1 to 9 **N4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **N5** Compare and order numbers up to 100. **N7** Illustrate, concretely and pictorially, the meaning of place value for numerals to 100. **N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by:	**Below Grade: Intervention** 5: Adding Tens 6: Taking Away Tens **On Grade: Teacher Cards** 13: Building Numbers (N4, N7) 14: Making a Number Line (N1, N1a, N1b, N5, N9a, PR2) 15: Grouping to Count (N1a, N4, PR2) 16: Grouping and Place Value Consolidation (N1a, N4, N7, N9a, PR2) **On Grade: Math Every Day Card 3A:** Adding Ten (N1a, N1b, N9a, PR2) Taking Away Ten (N1a, N1b, N9a, PR2) **Card 3B:** Thinking Tens (N1a, N1b, N7) Describe Me (N7)	**Below Grade:** • At the Corn Farm (Activity 13) • How Many Is Too Many? (Activities 15, 16) **On Grade:** • Back to Batoche (Activity 13) • A Class-full of Projects (Activities 13, 16) • The Money Jar (Activity 13) • Ways to Count (Activities 15, 16) • Family Fun Day (Activity 15) • What Would You Rather? (Activities 15, 16) **Above Grade:** • How Numbers Work (Activities 13, 16) • Hockey Homework (Activity 15)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2) - Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16) - Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16)

Curriculum Correlation
Number Cluster 3: Grouping and Place Value

New Brunswick/Prince Edward Island/Newfoundland and Labrador (continued)

• **N9a** using personal strategies for adding and subtracting with and without the support of manipulatives **2PR2** Demonstrate an understanding of increasing patterns by using manipulatives, diagrams, sounds and actions (numbers to 100).			**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations:** Use patterns to describe the world and solve problems			
2.N.1 Say the number sequence from 0 to 100 by • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s using starting points from 1 to 9 • 2s starting from 1. **2.N.4** Represent and describe numbers to 100, concretely, pictorially, and symbolically. **2.N.5** Compare and order numbers up to 100. **2.N.7** Illustrate, concretely and pictorially, the meaning of place value for numbers to 100.	**Below Grade: Intervention** 5: Adding Tens 6: Taking Away Tens **On Grade: Teacher Cards** 13: Building Numbers (2.N.4, 2.N.7) 14: Making a Number Line (2.N.1, 2.N.5) 15: Grouping to Count (2.N.1.1) 16: Grouping and Place Value Consolidation (2.N.4, 2.N.7) **On Grade: Math Every Day Card 3A:** Adding Ten (2.N.1) Taking Away Ten (2.N.1) **Card 3B:** Thinking Tens (2.N.1, 2.N.7) Describe Me (2.N.7)	**Below Grade:** • At the Corn Farm (Activity 13) • How Many Is Too Many? (Activities 15, 16) **On Grade:** • Back to Batoche (Activity 13) • A Class-full of Projects (Activities 13, 16) • The Money Jar (Activity 13) • Ways to Count (Activities 15, 16) • Family Fun Day (Activity 15) • What Would You Rather? (Activities 15, 16) **Above Grade:** • How Numbers Work (Activities 13, 16) • Hockey Homework (Activity 15)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2) - Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16) - Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Manitoba (continued)

			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to develop number sense. **Cross Strand** **Patterns and Relations:** Students will be expected to use patterns to describe the world and solve problems			
N01 Students will be expected to say the number sequence by • **N01a** 1s, forward and backward, starting from any point to 200 • **N01b** 2s, forward and backward, starting from any point to 100 • **N01c** 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 • **N01d** 10s, starting from any point, to 100 **N04** Students will be expected to represent and partition numbers to 100. **N05** Students will be expected to compare and order numbers up to 100. **N07** Students will be expected to illustrate,	**Below Grade: Intervention** 5: Adding Tens 6: Taking Away Tens **On Grade: Teacher Cards** 13: Building Numbers (N04, N07) 14: Making a Number Line (N01a, N01c, N01d, N05, N09a, PR02) 15: Grouping to Count (N01a, N01b, N01c, 2N04, PR02) 16: Grouping and Place Value Consolidation (N01a, N01b, 2N01c, N04, N07, N09a, PR02) **On Grade: Math Every Day Card 3A:** Adding Ten (N01c, N01d, N09a, PR02) Taking Away Ten (N01c, N01d, N09a, PR02) **Card 3B:** Thinking Tens (N01c, N01d, N07) Describe Me (N07)	**Below Grade:** • At the Corn Farm (Activity 13) • How Many Is Too Many? (Activities 15, 16) **On Grade:** • Back to Batoche (Activity 13) • A Class-full of Projects (Activities 13, 16) • The Money Jar (Activity 13) • Ways to Count (Activities 15, 16) • Family Fun Day (Activity 15) • What Would You Rather? (Activities 15, 16) **Above Grade:** • How Numbers Work (Activities 13, 16) • Hockey Homework (Activity 15)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2) - Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16) - Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16)

Nova Scotia (continued)

concretely and pictorially, the meaning of place value for numerals to 100. **N09** Students will be expected to demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by • **N09.1** using personal strategies for adding and subtracting with and without the support of manipulatives **PR02** Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, and creating numerical patterns (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions.			**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations:** Use patterns to describe the world and solve problems			
Number **1** Say the number sequence 0 to 100 by: • **1a** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • **1b** 10s using starting points from 1 to 9 **4.** Represent and describe numbers to 100, concretely, pictorially and symbolically. **5.** Compare and order numbers up to 100. **7.** Illustrate, concretely and pictorially, the meaning of place value for numerals to 100. **9.** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the	**Below Grade: Intervention** 5: Adding Tens 6: Taking Away Tens **On Grade: Teacher Cards** 13: Building Numbers (N4, N7) 14: Making a Number Line (N1, N1a, N1b, N5, N9a, PR2) 15: Grouping to Count (N1a, N4, PR2) 16: Grouping and Place Value Consolidation (N1a, N4, N7, N9a, PR2) **On Grade: Math Every Day Card 3A:** Adding Ten (N1a, N1b, N7, N9a, PR2) Taking Away Ten (N1a, N1b, N7, N9a, PR2) **Card 3B:** Thinking Tens (N1a, N1b, N7) Describe Me (N7)	**Below Grade:** • At the Corn Farm (Activity 13) • How Many Is Too Many? (Activities 15, 16) **On Grade:** • Back to Batoche (Activity 13) • A Class-full of Projects (Activities 13, 16) • The Money Jar (Activity 13) • Ways to Count (Activities 15, 16) • Family Fun Day (Activity 15) • What Would You Rather? (Activities 15, 16) **Above Grade:** • How Numbers Work (Activities 13, 16) • Hockey Homework (Activity 15)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2) - Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16) - Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Alberta/Northwest Territories/Nunavut (continued)

corresponding subtraction by • **9a.** using personal strategies for adding and subtracting with and without the support of manipulatives **Patterns and Relations** **2.** Demonstrate an understanding of numerical (numbers to 100) and non-numerical increasing patterns by using manipulatives, diagrams, sounds and actions.			**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

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Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Saskatchewan

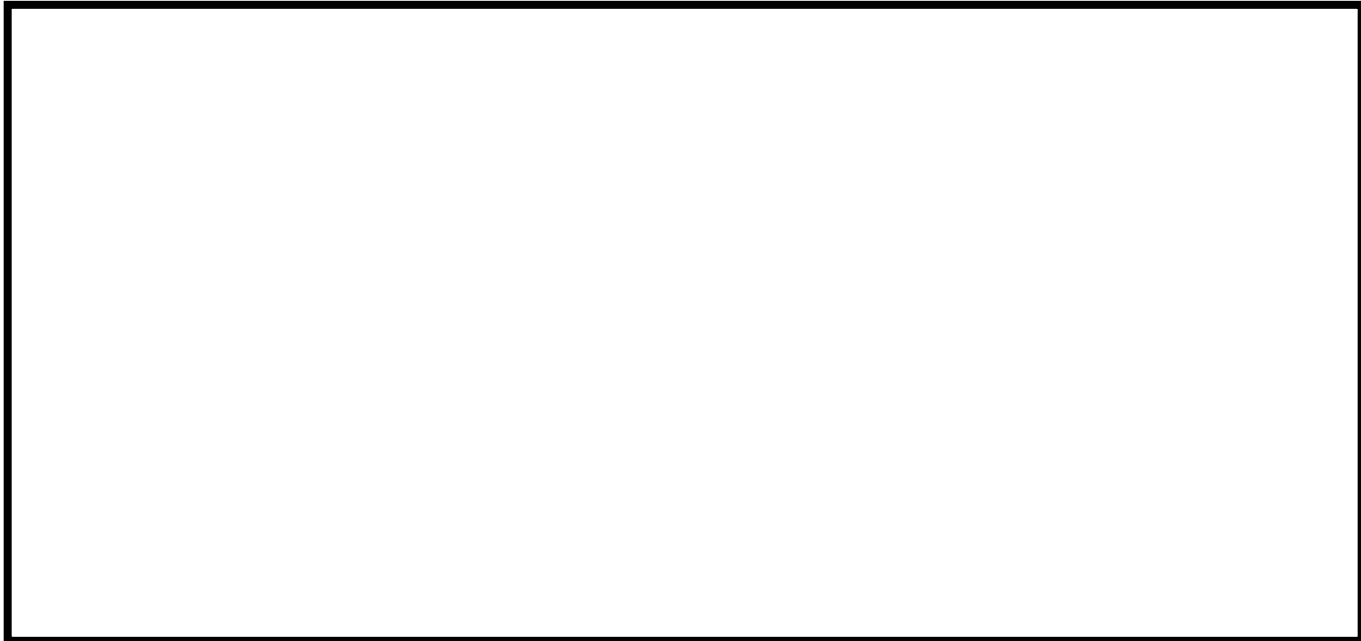| Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour			
N2.1 Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • **N2.1a representing (including place value)** • **N2.1b describing** • **N2.1c skip counting** • N2.1d differentiating between odd and even numbers • N2.1e estimating with referents • **N2.1f comparing two numbers** • **N2.1g ordering three or more numbers** **N2.2** Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • N2.2d using personal strategies for adding and subtracting with and without the support of manipulatives	**Below Grade: Intervention** 5: Adding Tens 6: Taking Away Tens **On Grade: Teacher Cards** 13: Building Numbers (N2.1a, N2.1b) 14: Making a Number Line (N2.1c, N2.1g, N2.2d, P2.2) 15: Grouping to Count (N2.1a, N2.1b, N2.1c, N2.2d, P2.2) 16: Grouping and Place Value Consolidation (N2.1a, N2.1b, N2.1c, N2.1g, N2.2d, P2.2) **On Grade: Math Every Day Card 3A:** Adding Ten (N2.1c, N2.1f, P2.2) Taking Away Ten (N2.1c, N2.1f, P2.2) **Card 3B:** Thinking Tens (N2.1a, N2.1b) Describe Me (N2.1a, N2.1b)	**Below Grade:** • At the Corn Farm (Activity 13) • How Many Is Too Many? (Activities 15, 16) **On Grade:** • Back to Batoche (Activity 13) • A Class-full of Projects (Activities 13, 16) • The Money Jar (Activity 13) • Ways to Count (Activities 15, 16) • Family Fun Day (Activity 15) • What Would You Rather? (Activities 15, 16) **Above Grade:** • How Numbers Work (Activities 13, 16) • Hockey Homework (Activity 15)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 15, 16) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 13, 16; MED 3B: 1, 2) - Determines 10 more/less than a given number without counting. (Activity 14, 16; MED 3A: 1, 2, MED 3B: 1) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 15, 16) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 15, 16) - Recognizes and describes equal-sized sets as units within a larger set (doubling or tripling). (Activities 15, 16)

Curriculum Correlation
Number Cluster 3: Grouping and Place Value

Saskatchewan (continued)

Patterns and Relations **P2.2** Demonstrate an understanding of increasing patterns by using manipulatives, diagrams, sounds and actions (numbers to 100).			**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.**
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 15, 16) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activity 14, MED 3A: 1, 2)

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Name_____ Date _____

Building Numbers Cards

62	**43**	**39**
85	**70**	**51**
three tens and eight ones	**nine tens and three ones**	**four tens and zero ones**
five tens and two ones	**six tens and seven ones**	**seven tens and four ones**

Name_____ Date _____

12	**23**	**q**
10	**17**	**28**
zero tens and eight ones	**one ten and four ones**	**one ten and one one**
two tens and six ones	**two tens and nine ones**	**two tens and zero ones**

Name_____ Date _____

Ten Rods and Ones
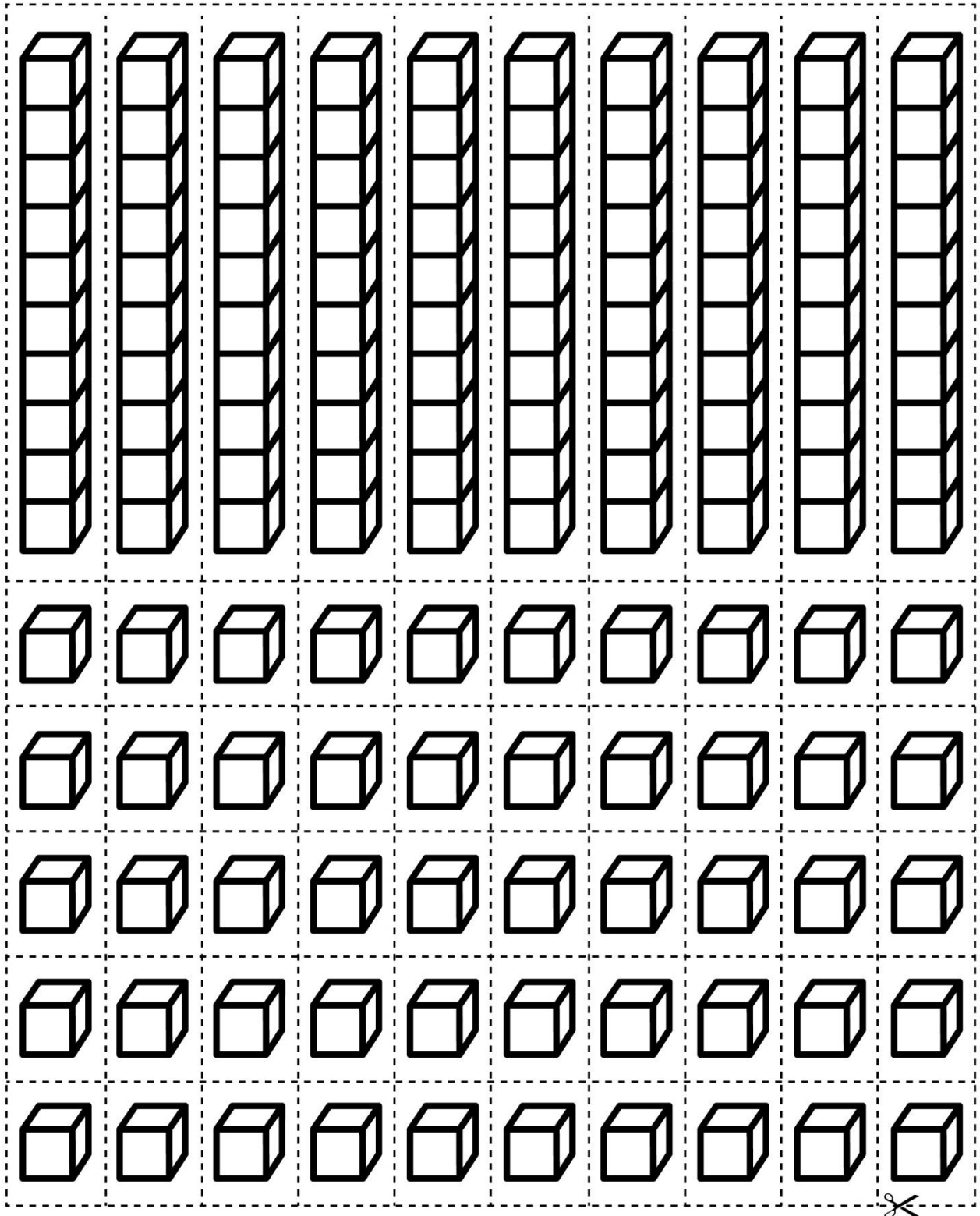
Master 37: Activity 12 Assessment
Building Numbers to 100

Composing and Decomposing Numbers Behaviours/Strategies
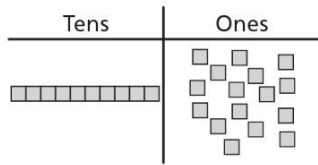
1. Student decomposes number into units of tens and leftover ones, but has more than 10 cubes in the Ones column.	2. Student decomposes number into units of tens and leftover ones, but does not realize that one ten is the same as 10 ones.	3. Student decomposes number into units of tens and leftover ones, but confuses the number of tens with the number of cubes in the rods.	4. Student decomposes number into units of tens and leftover ones, but is unable to relate the number of tens and leftover ones to the digits of the number (cannot read the number).
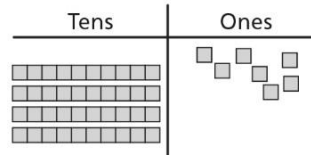
"It doesn't have ones. It's a ten."

"I have 40 tens."
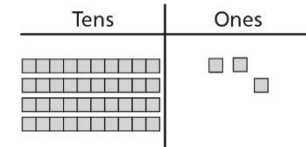
"4 tens and 3 ones. What number is that?"

Observations/Documentation

5. Student decomposes number into units of tens and leftover ones, but cannot write the number. "5 tens and 1 one, fifty-one. How do I write it?"	6. Student decomposes number into units of tens and leftover ones, and counts on with cubes to determine how many more ones are needed to make another ten.	7. Student decomposes number into units of tens and leftover ones and counts on with fingers to determine how many more ones are needed to make another ten.	8. Student successfully writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones.
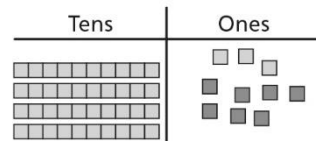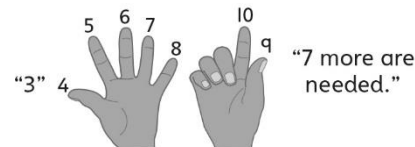
"4, 5, 6, 7, 8, 9, 10."
"So, 1, 2, 3, 4, 5, 6, 7 more."

"3" 4 5 6 7 8 10 9 "7 more are needed."

Observations/Documentation

Name_____ Date _____

Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Master 38b   **Hundred Chart (101–200)**

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Master 39: Activity 13 Assessment
Making a Number Line

Determining 10 More/Less Behaviours/Strategies

1. Student tapes rows together, but struggles to say the number name sequence forward (rows are not in numerical order). `7 8 9 10 31 32 33 34`	2. Student correctly says the number name sequence forward (tapes rows together in numerical order), but has difficulty seeing the similarities and differences between a hundred chart and number line. "They don't look the same to me at all."	3. Student successfully builds the number line, but does not recognize that numbers of the same colour increase or decrease by 10. `8 18 28 38 48 58 68` "The colours keep repeating."
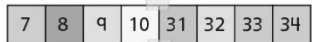
Observations/Documentation

4. Student recognizes that numbers of the same colour increase or decrease by 10, but struggles to see patterns and relationships between numbers of the same colour. `8 18 28 38 48 58 68` "I don't know how all the red numbers are alike."	5. Student determines 10 more/less than a number that is a multiple of ten, but struggles when the start number is not a multiple of ten. "I don't know ten more than 17."	6. Student successfully builds the number line, recognizes all patterns, and fluently determines 10 more/less than a number without counting.
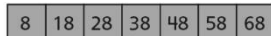
Observations/Documentation

Name_____ Date _____

How Many? **Recording Sheet**

Group Size	Number of Groups	Number of Leftovers	Total

Master 41: Activity 14 Assessment
Grouping to Count

Partitioning into Equal-Sized Units Behaviours/Strategies

1. Student counts objects by 1s, but struggles to partition objects into equal-sized units (not all units are equal).	2. Student partitions objects into equal-sized units, but mixes up the skip-counting sequence or does not know the number to skip-count by. "5, 10, 20, 25, 35"	3. Student partitions into and skip-counts by equal-sized units, but does not include the leftovers in the total. "5, 10, 15"	4. Student partitions into and skip-counts by equal-sized units, but continues to skip-count by the same number to count the leftovers. "5, 10, 15, 20"

Observations/Documentation

5. Student partitions into and skip-counts by equal-sized units, but does not recognize that the results will be the same when counted in different ways. "There were 17 when I grouped in 5s. Let's see how many when I group in 2s."	6. Student partitions into and skip-counts by equal-sized units, but does not realize that increasing the number of sets decreases the number of objects in each set. "There should be more groups of 10 than groups of 5 because 10 is bigger."	7. Student partitions into and skip-counts by equal-sized units, but does not recognize that the number of groups of 5 is often double the number of groups of 10 (i.e., does not see equal-sized sets as units within a larger set). Groups of 5 / Groups of 10: 12/6, 18/9, 10/5 "I don't see how they are related."	8. Student successfully partitions into and skip-counts by equal-sized units and recognizes relationships among the different unit sizes.

Table in item 7:

Groups of 5	Groups of 10
12	6
18	9
10	5

Observations/Documentation

Name_____ Date _____
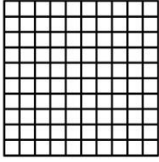
Place-Value Mat
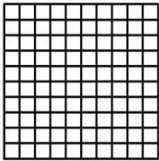
My Number

Ones

Tens

Hundreds
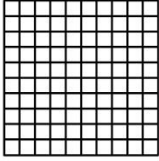
Master 42a   # What Number Am I?

The number has _____ ▦ , _____ ▮ , and _____ ▫.
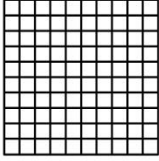
That is: _____ + _____ + _____ = _____

The number has _____ ▦ , _____ ▮ , and _____ ▫.

That is: _____ + _____ + _____ = _____

The number has _____ ▦ , _____ ▮ , and _____ ▫.

That is: _____ + _____ + _____ = _____

The number has _____ ▦ , _____ ▮ , and _____ ▫.

That is: _____ + _____ + _____ = _____

Master 43: Activity 15 Assessment
Building Numbers to 200

Building Numbers to 200 Behaviours/Strategies

1. Student adds unit cubes to show number rolled but has more than 10 cubes in the Ones column.	2. Student trades unit cubes for rods but isn't sure how many ones make a ten.	3. Student trades cubes for rods but has more than 10 rods in the Tens column.
	"I have a lot of cubes, so maybe I should trade some for a red."	
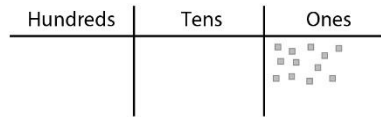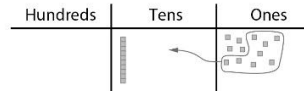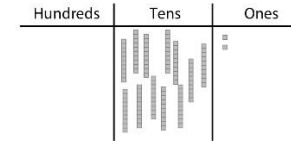
Observations/Documentation

4. Student trades rods for a flat but isn't sure how many tens make a hundred.	5. Student understands the relationships among hundreds, tens, and ones but struggles to name the number modelled.	6. Student understands the relationships among hundreds, tens, and ones and relates the model to a number.
"I know I have to trade, but I don't think I have enough rods yet."	"I have 1 hundred, 2 tens, and 2 ones. What number is that?"	"The model shows 122."
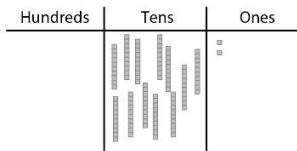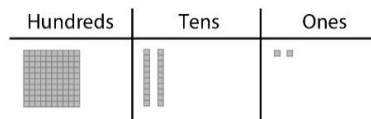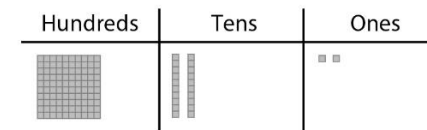
Observations/Documentation

Name_____ Date _____

Consolidation Task Cards

Show the number using tens and ones in two ways.

How many tens are in the number? How many leftover ones?

What is ten more than the number?

What is ten less than the number?

How many more ones are needed to make another ten?

Make equal groups of 2. How many groups of 3 are there? How many leftovers?

Make equal groups of 5. How many groups of 5 are there? How many leftovers?

Show the number using hundreds, tens, and ones in two ways.

How many more tens are needed to make another hundred?

Master 45: Activity 16 Assessment
Grouping and Place Value: Consolidation

Decomposing Numbers Behaviours/Strategies

1. Student decomposes number into units of tens and leftover ones, but has more than 10 cubes in the Ones column or confuses the number of tens with the number of cubes. Tens | Ones "I have 40 tens."	2. Student decomposes number into units of tens and leftover ones, and uses cubes to determine how many more ones are needed to make another ten. Tens | Ones "8, 9, 10. So, 1, 2, 3 more."	3. Student decomposes number into units of tens and leftover ones, but is unable to determine 10 more/less without counting.	4. Student decomposes number into units of hundreds, tens, and leftover ones, determines how many more tens are needed to make another hundred, and finds 10 more/less without counting. Hundreds | Tens | Ones "10 more is 157. 10 less is 137." "6 more tens are needed to make another hundred."
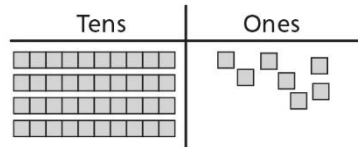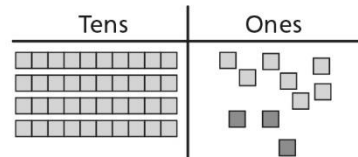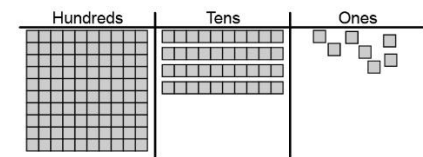
Observations/Documentation

Partitioning into Equal-Sized Units Behaviours/Strategies

1. Student counts objects by 1s, but struggles to partition objects into equal-sized units (not all units are equal).	2. Student partitions into and skip-counts by equal-sized units, but continues to skip-count to count the leftovers. "5, 10, 15, 20, 25"	3. Student partitions into and skip-counts by equal-sized units, but does not recognize relationships among the different unit sizes.	4. Student successfully partitions into and skip-counts by equal-sized units and recognizes relationships among the different unit sizes.
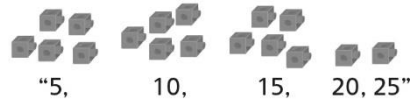
Observations/Documentation

Curriculum Correlation
Number Cluster 4: Early Fractional Thinking

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **N1 Quantity Relationships:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢			
N1.5 determine, through investigation using concrete materials, the relationship between the number of fractional parts of a whole and the size of the fractional parts **N1.6** regroup fractional parts into wholes, using concrete materials **N1.7** compare fractions using concrete materials, without using standard fractional notation	**Below Grade: Intervention** 7: Exploring Equal Parts 8: Naming Fractional Amounts **On Grade: Teacher Cards** 17: Equal Parts (N1.5) 18: Comparing Fractions 1 (N1.5) 19: Comparing Fractions 2 (N1.5, N1.7) 20: Regrouping Fractional Parts (N1.6) 21: Early Fractional Thinking Consolidation (N1.5, N1.6, N1.7) **On Grade: Math Every Day Card 4A:** Equal Parts from Home (N1.5) Modelling Fraction Amounts (N1.5) **Card 4B:** Regrouping Equal Parts (N1.6) Naming Equal Parts (N1.5)	**On Grade:** • The Best Birthday (Activities 17, 18, 19, 21) **Above Grade:** • Hockey Homework (Activities 17, 18, 19, 20, 21)	**Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Partitioning Quantities to Form Fractions** - Partitions wholes (e.g., intervals, sets) into equal parts and names the unit fractions. (Activities 17, 18, 19, 20, 21) - Relates the size of parts to the number of equal parts in a whole (e.g., a whole cut into 2 equal pieces has larger parts than a whole cut into 3 equal pieces). (Activities 17, 18, 19, 20, 21) - Compares unit fractions to determine relative size. (Activities 19, 21)

Name_____ Date _____

Rectangles

Name_____ Date _____

Paper Square

Mathology 2
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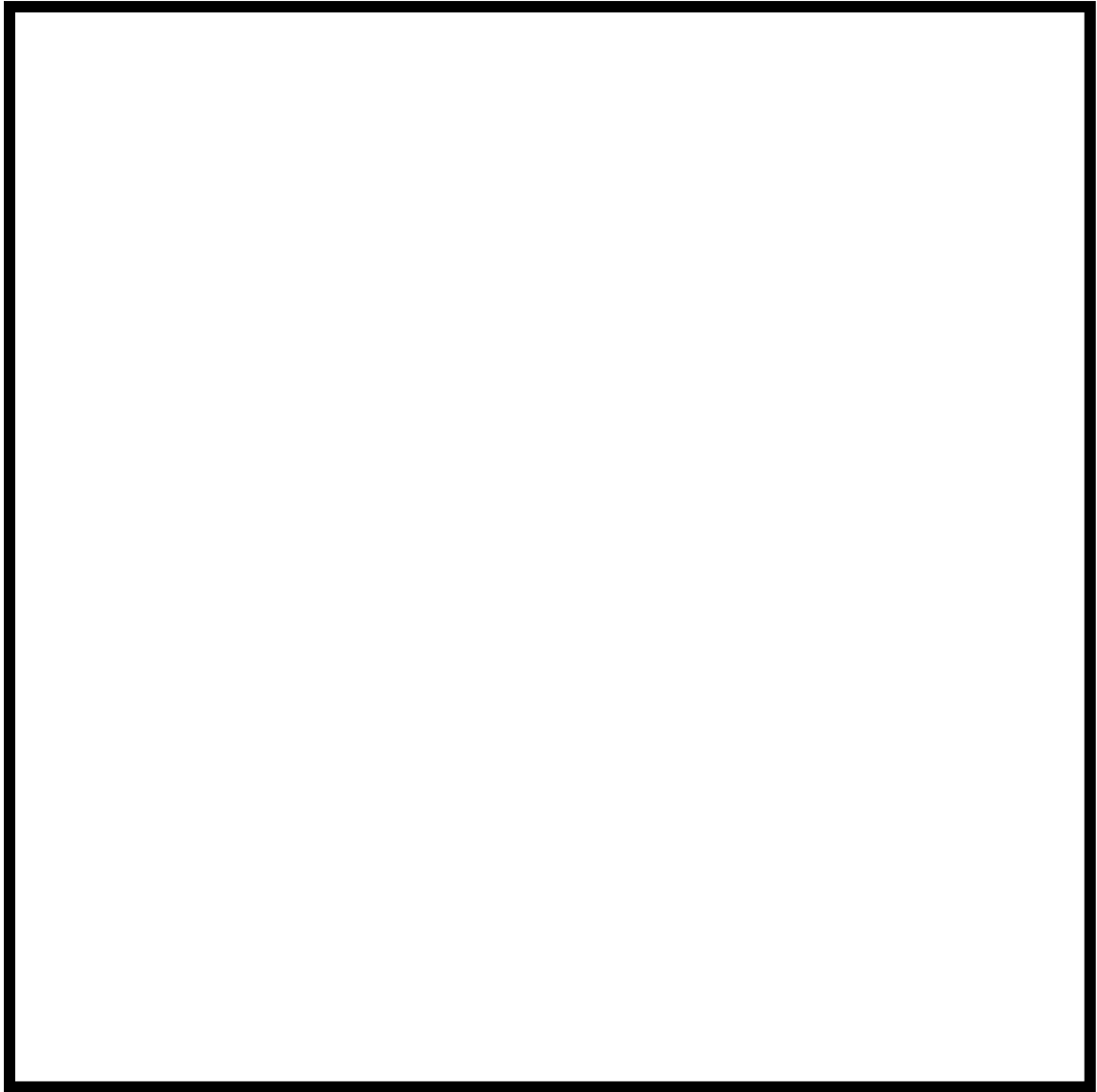
Name_____ Date _____

Paper Strip
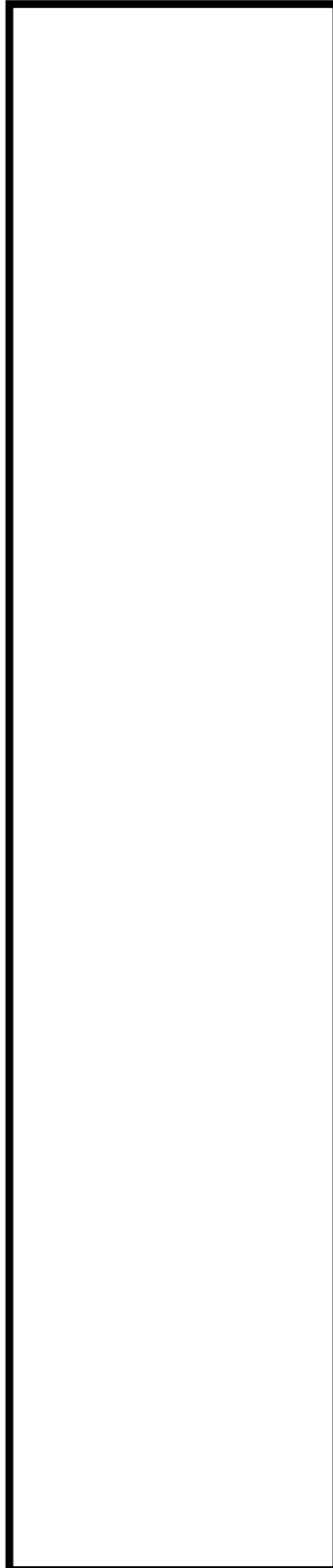
Master 50: Activity 17 Assessment
Equal Parts

Partitioning Wholes into Equal Parts Behaviours/Strategies		
1. Student takes an item, but struggles to partition it into equal parts, and parts are not equal.	2. Student partitions wholes into 2 and 4 equal parts, but struggles to cut or fold wholes into other numbers of equal parts (e.g., 3, 6, 8).	3. Student partitions wholes into equal parts, but struggles to prove that they are equal. "How do I show they are equal?"
Observations/Documentation		

4. Student partitions wholes into equal parts, but struggles to name the unit (does not know fraction words). "I don't know what each part is."	5. Student partitions wholes into equal parts and names the unit, but cannot relate the size of parts to the number of equal parts in a whole.	6. Student successfully partitions wholes into equal parts, names the unit, and relates the size of parts to the number of equal parts in a whole.
Observations/Documentation		

Name_____ Date _____

Bannock Story:
My Aunty's Bannock

By Amanda Norton and Jillian Laursen

Bannock is a special type of bread. It is usually flat and can be baked or fried. The best bannock of all is cooked over an open fire. It tastes really good with jam on it.

Traditional Bannock

- 3 cups all-purpose flour
- 2 tablespoons baking powder
- 1 tablespoon sugar
- ½ teaspoon salt
- ½ cup oil
- ¾ to 1 cup water

1. Preheat the oven to 400 degrees F (200 degrees C).
2. In a large bowl, combine the flour, baking powder, salt, and oil. Gradually mix in enough water to make soft but not sticky.
3. Knead on a lightly floured surface for about 10 minutes.
4. Bake for 15 to 20 minutes on a greased baking sheet until the bottom is golden when you lift up the bread to take a peek.

I could hardly contain my excitement. My aunty took two large bannock from the oven. She placed one of them on the kitchen table where my brother, sister, and cousin were sitting.

My aunty placed the other bannock on a table in the living room, where my Noohkoom (grandmother) was sipping her tea. My aunty then brought out her homemade wild berry jam. I love my aunty's bannock.

I knew each bannock would be shared equally, so I had to decide which table to sit at. I wanted to get the biggest piece of bannock.

Which table would you sit at?

Name_____ Date _____

Circular Bannock
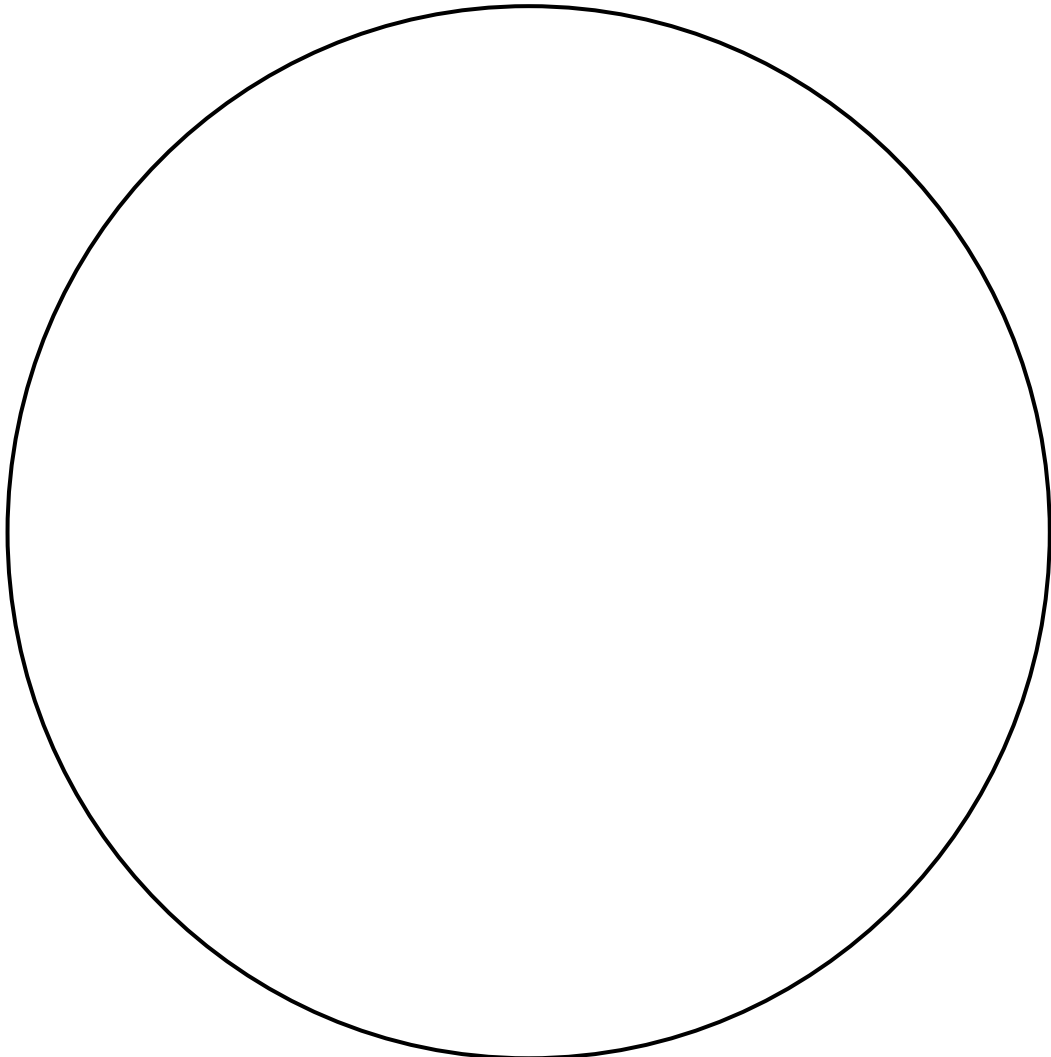
Master 53   **Congruent Paper Squares**

Note: Give each pair three copies of this square. Each square should be printed on a different colour of paper.
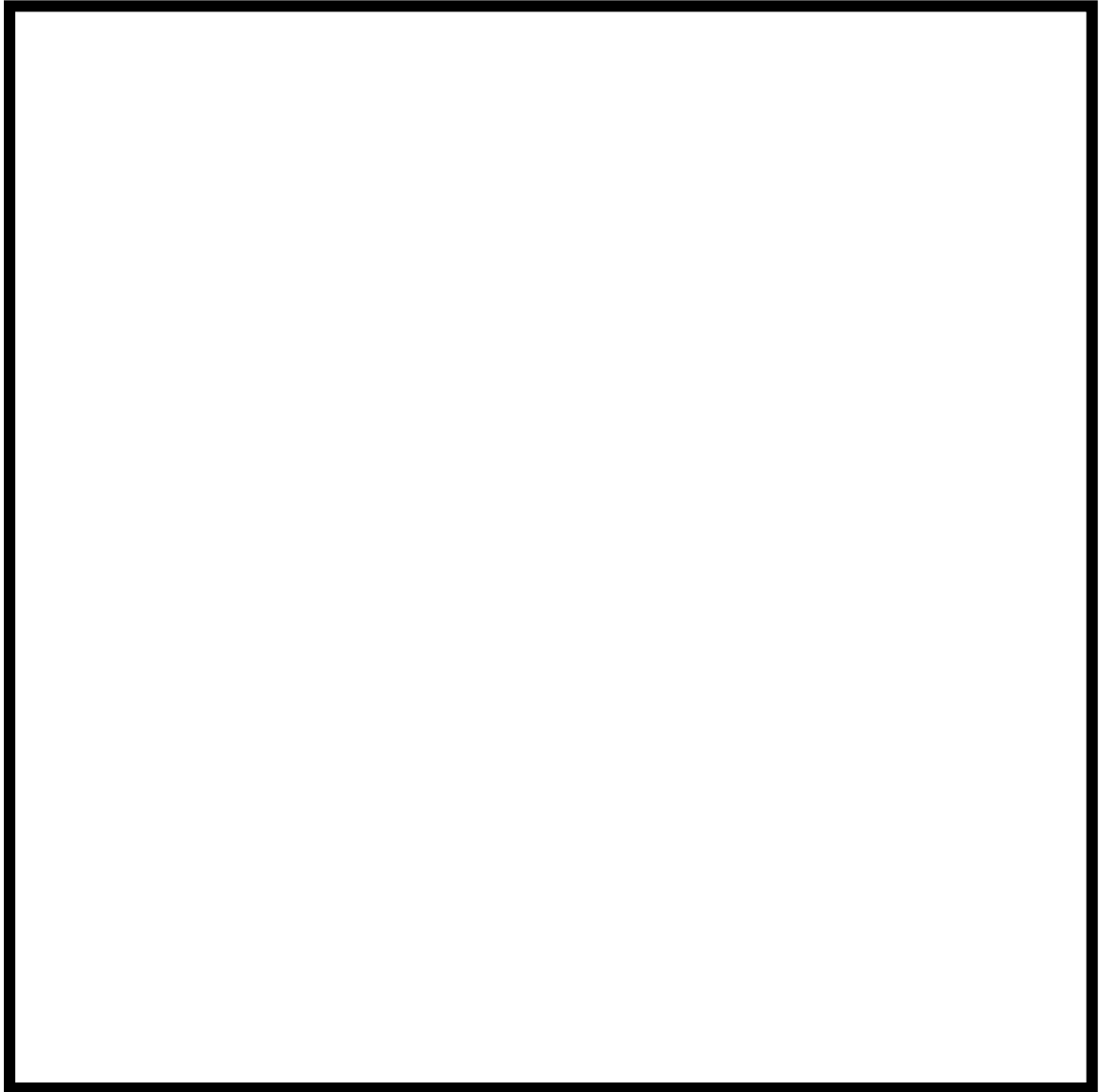
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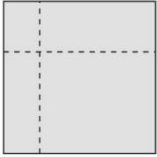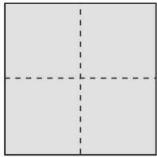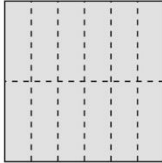
Paper Rectangle

Note: Give each pair three copies of the rectangle. Each rectangle should be printed on a different colour of paper.
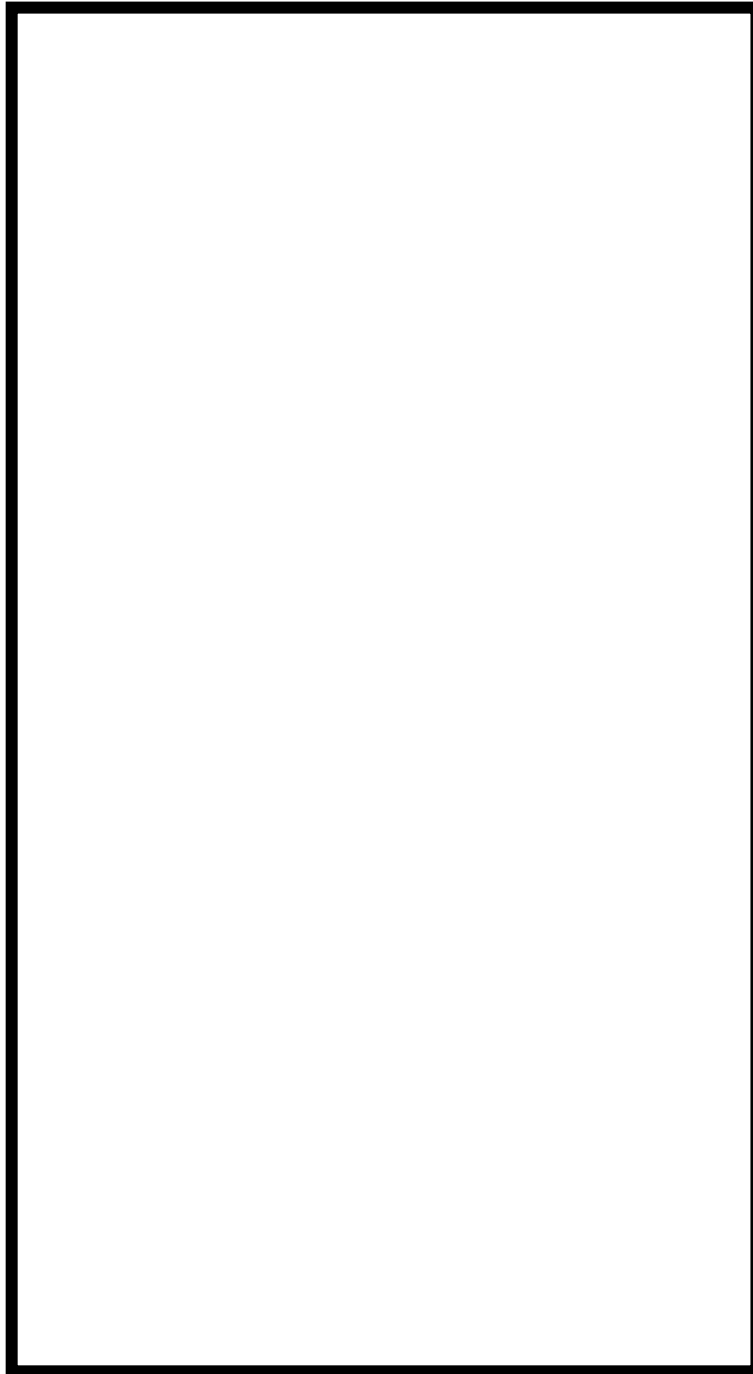
Master 55: Activity 18 Assessment
Comparing Fractions 1

Comparing Fractions of a Whole Behaviours/Strategies			
1. Student takes a square, but struggles to partition it into equal parts, and parts are not equal.	2. Student partitions wholes into 2 and 4 equal parts, but struggles to partition whole into 8 equal parts. "How do I make 8 equal parts?"	3. Student partitions wholes into equal parts, but struggles to prove that they are equal. "How do I show they are equal?"	4. Student partitions wholes into equal parts, but struggles to name the unit (does not know fraction words). "I don't know what each part is."

Observations/Documentation			

5. Student partitions wholes into equal parts and names the unit, but does not realize that dividing a whole into more equal parts produces smaller parts.	6. Student partitions wholes into equal parts and names the unit, but does not realize that dividing a whole into smaller parts produces more parts.	7. Student partitions wholes into equal parts and names the unit, but struggles to use math language to compare parts.	8. Student successfully partitions wholes into equal parts, names the unit, and relates the size of the parts to the number of equal parts in a whole.

Observations/Documentation			

Coloured Rods

White White White White White White	Red	White
Red	Light Green	Red
Red		Yellow	Purple
Red	Light Green	Purple		Light Green	Red
Red	Light Green			White
Red	Purple	Yellow	Black	Brown	Blue	Orange
Red	Light Green	Yellow	Dark Green

Name_____ Date _____

Brown Rod Questions

Which is bigger:
two fourths or three eighths?

Which is bigger:
one half or three fourths?

Which is bigger:
one half or five eighths?

Which is bigger:
one half or two fourths?

Which is bigger:
one half or three eighths?

Which is bigger:
three fourths or five eighths?

Which is bigger:
one fourth or two eighths?

Which is bigger:
three fourths or one whole?

Master 58: Activity 19 Assessment
Comparing Fractions 2

Comparing Fractions of a Whole Behaviours/Strategies

1. Student takes a rod, but struggles to partition it into equal parts, and parts are not equal.	2. Student takes a rod, but struggles to partition it into equal parts, and parts do not cover whole exactly.	3. Student partitions wholes into equal parts, but struggles to name the unit (does not know fraction words). "I don't know what each part is."

Observations/Documentation

4. Student partitions wholes into equal parts and names the unit, but does not realize that partitioning a whole into more equal parts produces smaller parts. "I don't notice anything."	5. Student partitions wholes into equal parts and names the unit, but struggles to compare with unit fractions. "I don't know which is bigger: two fourths or three eighths."	6. Student successfully partitions wholes into equal parts, names the unit, relates the size of parts to the number of equal parts in a whole, and compares with unit fractions.

Observations/Documentation

Master 59

Hexagons

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Name_____ Date _____

Regrouping **Recording Sheet**

Whole: Yellow Block

	Name of Part	**Number in Handful**	**Number of Wholes**	**Amount Left Over**
Red block				
Blue block				
Green block				

Master 61: Activity 20 Assessment
Regrouping Fractional Parts

Regrouping Fractional Parts Behaviours/Strategies		
1. Student takes a block, but struggles to partition it into equal parts, and parts do not cover whole exactly.	2. Student partitions wholes into equal parts, but struggles to name the unit (does not know fraction words). "I don't know what each part is."	3. Student partitions wholes into equal parts, but struggles to combine equal parts to make wholes as he or she does not know how many parts make a whole. "I don't know how many parts to use."
Observations/Documentation		
4. Student partitions wholes into equal parts, but struggles to combine equal parts to make wholes.	5. Student combines equal parts to make wholes, but struggles to name the wholes and leftover parts. "I made two and have two left over."	6. Student successfully partitions wholes into equal parts, names the unit, and combines equal parts to make wholes. "I made two wholes and have two thirds left over."
Observations/Documentation		

Master 62: Activity 21 Assessment
Partitioning Sets

Partitioning Sets Behaviours/Strategies
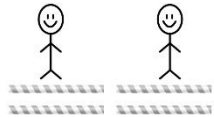
1. Student shares items equally when there are no leftovers.	2. Student shares some items equally but ignores the leftover.	3. Student shares some items equally but is not sure how to partition the leftover.
"I shared 4 straws and each person got 2 straws."	"I shared 5 straws and each person got 2 straws."	"I'm not sure how to divide the leftover straw."
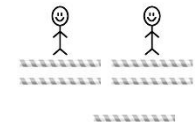
Observations/Documentation

4. Student shares items equally, including leftovers, but cannot use fractions to name the amount each sharer gets.	5. Student shares items equally, including leftovers, and uses fractions to name the amount each sharer gets.	6. Student shares items equally, including leftovers, and recognizes that one-third and two-sixths of the same whole are equal.
"Each person gets 2 and a bit. Or, each person gets three."	"Each person got two and one-half straws."	"Each person got one and one-third straws. If I cut the leftover straw in sixths, each person gets one and two-sixths straws."
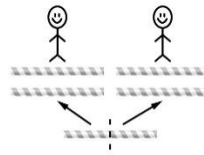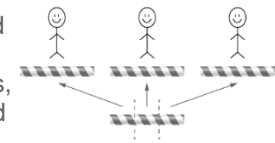
Observations/Documentation

Master 63a

Consolidation Cards

Use the same whole. Which is bigger: one half or one fourth?	Use the same whole. Which is bigger: one half or two eighths?
Use the same whole. Which is bigger: one fourth or one eighth?	Use the same whole. Which is smaller: one half or one eighth?
Use the same whole. Which is bigger: one half or two sixths?	Use the same whole. Which is smaller: three sixths or one third?
Use the same whole. Which is bigger: two thirds or one half?	Use the same whole. Which is smaller: three fourths or one half?

Consolidation Cards

Use 5 halves. How many wholes can you make?	Use 7 fourths. How many wholes can you make?
Use 8 thirds. How many wholes can you make?	Use 10 sixths. How many wholes can you make?
Use 9 halves. How many wholes can you make?	Use 8 fourths. How many wholes can you make?

Name_____ Date _____

Consolidation Cards

Use the same whole. Are one-half and two-fourths equal?	Use the same whole. Are one-third and two-sixths equal?
Use the same whole. Are one-half and three-fourths equal?	Use the same whole. Are one-third and three-sixths equal?

Consolidation Cards

Share 10 items equally among 4 friends. How much does each friend get?	Share 10 items equally between 2 friends. How much does each friend get?
Share 9 items equally among 4 friends. How much does each friend get?	Share 8 items equally between 2 friends. How much does each friend get?
Share 8 items equally among 3 friends. How much does each friend get?	Share 9 items equally among 6 friends. How much does each friend get?

Master 64: Activity 22 Assessment

Early Fractional Thinking: Consolidation

Comparing and Regrouping Fractional Parts Behaviours/Strategies

1. Student chooses a whole, but struggles to partition it into equal parts, and parts are not equal or they do not cover the whole exactly.	2. Student partitions wholes into equal parts, but compares parts of different wholes.	3. Student partitions wholes into equal parts, but struggles to combine equal parts to make wholes. "I don't know how many parts to use."	4. Student successfully partitions wholes into equal parts, compares with unit fractions, and combines equal parts to make wholes.

Observations/Documentation

Partitioning Sets Behaviours/Strategies
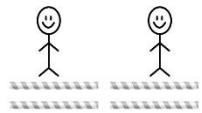
1. Student shares items equally when there are no leftovers. "I shared 4 straws and each person got 2 straws."	2. Student shares some items equally but is not sure how to partition the leftover and then name it. "I'm not sure how to divide the leftover straw."	3. Student shares items equally, including leftovers, and uses fractions to name the amount each sharer gets. "Each person got two and one-half straws."	4. Student shares items equally, including leftovers, and recognizes some equivalent fractions. "Each person got one and one-third straws. If I cut the leftover straw in sixths, each person gets one and two-sixths straws."
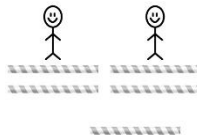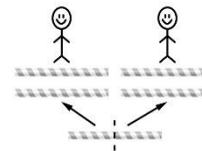
Observations/Documentation

Curriculum Correlation
Number Cluster 5: Number Relationships 2

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **N1 Quantity Relationships:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢ **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points **Cross strand:** Patterning and Algebra **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns			
N1.3 compose and decompose two-digit numbers in a variety of ways, using concrete materials **N1.4** determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer **N2.1** count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 **N2.3** locate whole numbers to 100 on a number line and on a partial number line **P1.1** identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (N1.4, N2.3) 23: Decomposing 50 (N1.3) 24: Jumping on the Number Line (N1.3, N2.1, N2.3, P1.1) 25: Number Relationships 2 Consolidation (N1.3, N1.4, N2.1, N2.3) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (N1.4) Building Numbers (N1.3) **Card 5B:** How Many Ways? (N1.3) What's the Unknown Part? (N1.3)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Curriculum Correlation

Number Cluster 5: Number Relationships 2

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Ideas Numbers to 100 represent quantities that can be decomposed into 10s and 1s. Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value.			
N1 Number concepts to 100 Counting • **N1.1** skip-counting by 2, 5, and 10: – **N1.1a** using different starting points – **N1.1b** increasing and decreasing (forward and backward) • **N1.2** Quantities to 100 can be arranged and recognized – **N1.2a** comparing and ordering numbers to 100 – **N1.2b** benchmarks of 25, 50, and 100 **N4 Addition and subtraction to 100** • **N4.1** decomposing numbers to 100 • **N4.3** using strategies such as looking for multiples of 10, friendly numbers, decomposing into 10s and 1s and recomposing, and compensating • **N4.5** using an open number line, hundred chart, ten-frames	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (N1.2a, N1.2b) 23: Decomposing 50 (N4.1) 24: Jumping on the Number Line (N1.1, N1.1a, N1.1b, N4.1, N4.3, N4.5) 25: Number Relationships 2 Consolidation (N1.1, N1.1a, N1.1b, N4.1, N4.3, N4.5) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (N1.2a, N1.2b) Building Numbers (N4.1) **Card 5B:** How Many Ways? (N4.1) What's the Unknown Part? (N4.1)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Curriculum Correlation
Number Cluster 5: Number Relationships 2

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
N1 Say the number sequence from 0 to 100 by: • **N1a** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively **N4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **N5** Compare and order numbers up to 100. **N6** Estimate quantities to 100 using referents.	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (N6) 23: Decomposing 50 (N4) 24: Jumping on the Number Line (N1a, N4) 25: Number Relationships 2 Consolidation (N1a, N4) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (N5) Building Numbers (N4) **Card 5B:** How Many Ways? (N4) What's the Unknown Part? (N4)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Curriculum Correlation
Number Cluster 5: Number Relationships 2

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
2.N.1. Say the number sequence from 0 to 100 by • 2s, 5s, and 10s, forward and backward, using starting points that are multiples of 2, 5, and 10 respectively. • 10s using starting points from 1 to 9 • 2s starting from 1. **2.N.4** Represent and describe numbers to 100, concretely, pictorially, and symbolically. **2.N.5** Compare and order numbers up to 100.	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (2.N.4) 23: Decomposing 50 (2.N.4) 24: Jumping on the Number Line (2.N.1, 2.N.4) 25: Number Relationships 2 Consolidation (2.N.4) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (2.N.5) Building Numbers (2.N.4) **Card 5B:** How Many Ways? (2.N.4) What's the Unknown Part? (2.N.4)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Curriculum Correlation
Number Cluster 5: Number Relationships 2

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense.			
N01 Students will be expected to say the number sequence by • **N01a** 1s, forward and backward, starting from any point to 200 • **N01b** 2s, forward and backward, starting from any point to 100 • **N01c** 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 **N04** Students will be expected to represent and partition numbers to 100. **N05** Students will be expected to compare and order numbers up to 100. **N06** Students will be expected to estimate quantities to 100 by using referents.	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (N06) 23: Decomposing 50 (N04) 24: Jumping on the Number Line (N01a, N01b, N01c, N04) 25: Number Relationships 2 Consolidation (N01a, N01b, N01c, N04) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (N05) Building Numbers (N04) **Card 5B:** How Many Ways? (N04) What's the Unknown Part? (N04)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Curriculum Correlation
Number Cluster 5: Number Relationships 2

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
Number **1.** Say the number sequence 0 to 100 by: • **1a.** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively **4.** Represent and describe numbers to 100, concretely, pictorially and symbolically. **5.** Compare and order numbers up to 100. **6.** Estimate quantities to 100, using referents.	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (N6) 23: Decomposing 50 (N4) 24: Jumping on the Number Line (N1a, N4) 25: Number Relationships 2 Consolidation (N1a, N4) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (N5) Building Numbers (N4) **Card 5B:** How Many Ways? (N4) What's the Unknown Part? (N4)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Curriculum Correlation
Number Cluster 5: Number Relationships 2

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour			
N2.1 Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • **N2.1a representing (including place value)** • **N2.1b describing** • **N2.1c skip counting** • N2.1d differentiating between odd and even numbers • N2.1e estimating with referents • **N2.1f comparing two numbers** • N2.1g ordering three or more numbers	**Below Grade: Intervention** 9: Making 20 10: The Other Part of 10 **On Grade: Teacher Cards** 22: Benchmarks on a Number Line (N2.1a, N2.1b, N2.1f) 23: Decomposing 50 (N2.1a, N2.1b) 24: Jumping on the Number Line (N2.1a, N2.1b, N2.1c) 25: Number Relationships 2 Consolidation (N2.1a, N2.1b, N2.1c) **On Grade: Math Every Day Card 5A:** Which Ten is Nearer? (N2.1f) Building Numbers (N2.1a, N2.1a) **Card 5B:** How Many Ways? (N2.1a, N2.1b) What's the Unknown Part? (N2.1a, N2.1b)	**Below Grade:** • Paddling the River (Activities 23, 25) • Family Fun Day (Activity 23) **On Grade:** • A Class-full of Projects (Activities 23, 25) • The Money Jar (Activities 24, 25) • Family Fun Day (Activity 25) **Above Grade:** • Finding Buster (Activities 23, 25)	**Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude and Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 22, 25, MED 5A: 1) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 23, 24, 25, MED 5A: 2, MED 5B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities into Ones, Tens, and Hundreds (Place-Value Concepts)** - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. (Activities 24, 25) **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 24, 25)

Name_____ Date _____

Closer To Cards

127 Closer to 120 or 130?	**188** Closer to 180 or 190?	**134** Closer to 130 or 140?
97 Closer to 90 or 100?	**105** Closer to 100 or 110?	**149** Closer to 140 or 150?
152 Closer to 150 or 160?	**165** Closer to 160 or 170?	**177** Closer to 170 or 180?
199 Closer to 190 or 200?	**145** Closer to 140 or 150?	**113** Closer to 100 or 120?

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59 Closer to 50 or 60?	**78** Closer to 70 or 80?	**44** Closer to 40 or 50?
92 Closer to 90 or 100?	**39** Closer to 30 or 40?	**83** Closer to 80 or 90?
7 Closer to 0 or 10?	**56** Closer to 50 or 60?	**11** Closer to 10 or 20?
95 Closer to 90 or 100?	**64** Closer to 60 or 70?	**25** Closer to 20 or 30?

Name_____ Date _____

**Closer To Cards
(for Combined Grades Extension)**

126	**288**	**234**
Closer to 120 or 130?	Closer to 280 or 290?	Closer to 230 or 240?
197	**115**	**349**
Closer to 190 or 200?	Closer to 110 or 120?	Closer to 340 or 350?
352	**365**	**477**
Closer to 350 or 360?	Closer to 360 or 370?	Closer to 470 or 480?
499	**445**	**413**
Closer to 490 or 500?	Closer to 440 or 450?	Closer to 410 or 420?

✂

Master 67: Activity 23 Assessment
Benchmarks on a Number Line

Comparing Numbers Using Benchmarks on a Number Line Behaviours/Strategies

1. Student takes a paper strip, but is unable to make benchmark folds (e.g., folds the paper randomly or struggles to fold the strip in half).	2. Student makes benchmark folds, but struggles to label folds with benchmark numbers.	3. Student correctly shows benchmark numbers on the number line, but cannot compare numbers to identify the closer ten.
	0 200	0 50 100 150 200 "144 is closer to 150."
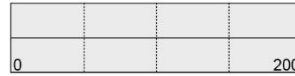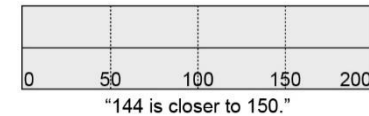
Observations/Documentation

4. Student successfully compares most numbers using benchmarks, but struggles when the ones digit of the number is 5. "I don't know what number 85 is closer to."	5. Student successfully compares numbers using benchmarks, but struggles to write the number in its approximate location on the number line. 100 127 130 "127 is closer to 130."	6. Student successfully compares numbers using benchmarks and writes numbers in their approximate locations on the number line.
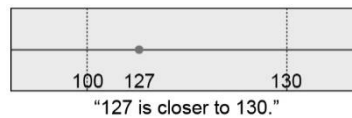
Observations/Documentation

Name_____ Date _____

Target Number Cards

37	29	32
40	26	45
17	23	41
25	44	60

Target Number Cards

86	**99**	**71**
120	**108**	**75**
150	**97**	**82**
103	**64**	**116**

Name_____ Date _____

6	**9**	**11**
3	**10**	**5**
18	**15**	**12**
14	**7**	**1**

Name_____ Date _____

Jumping Bean Number Lines

Line 1 (left): 0, 5, 10, 15, 20

Line 2 (middle): 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

Line 3 (right): 0, 5, 10, 15, 20
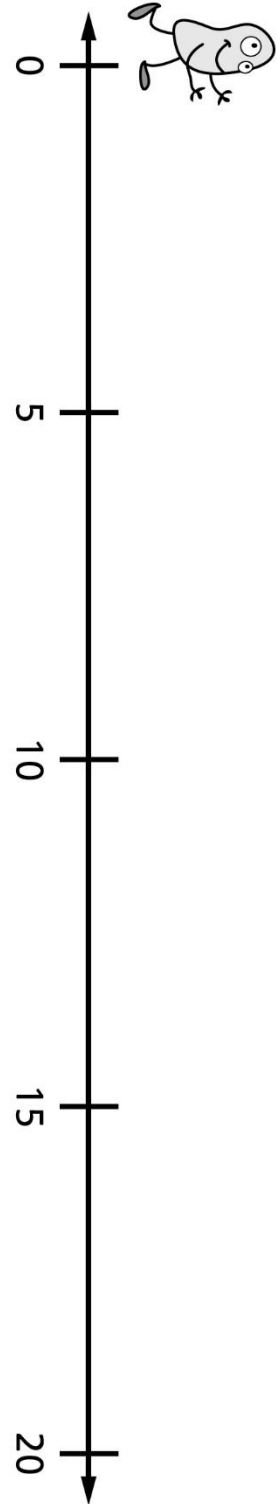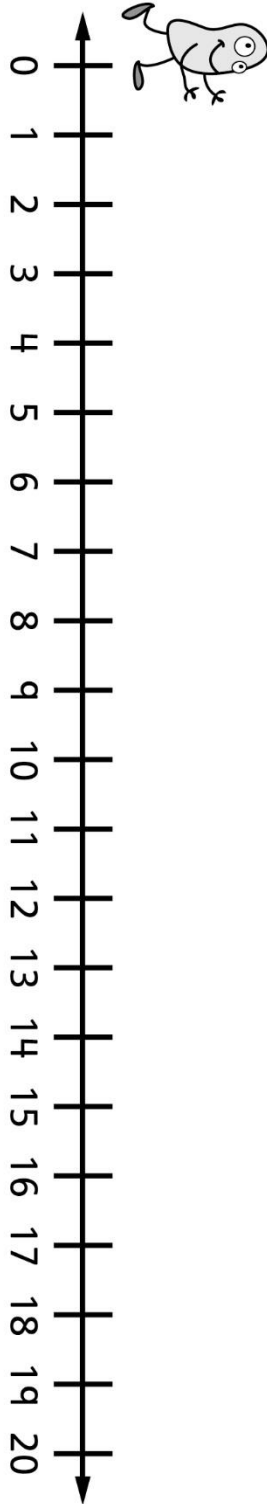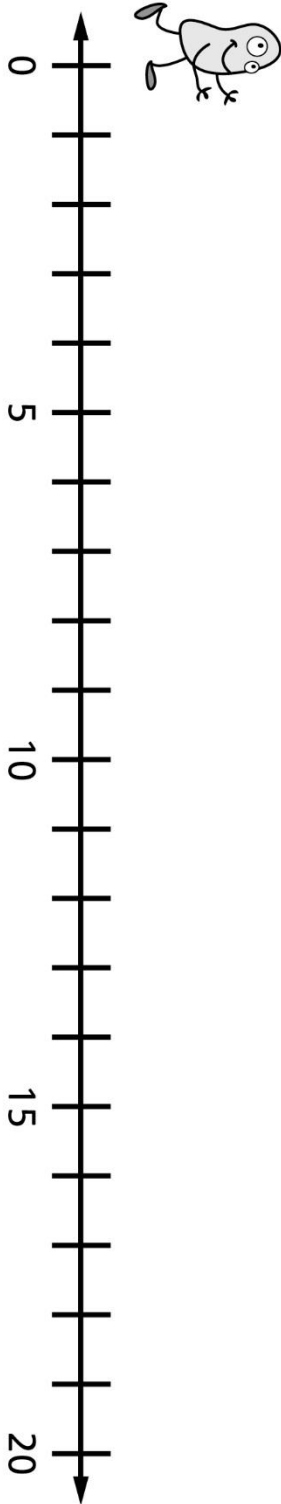
Master 70: Activity 24 Assessment
Jumping on the Number Line

Decomposing Numbers on a Number Line Behaviours/Strategies

1. Student chooses a card, but struggles to decompose numbers into parts using a number line. "I don't know what to do."	2. Student decomposes numbers into parts using a number line, but always takes jumps of 1.	3. Student decomposes numbers into parts using a number line, but only takes jumps of 1 and 10.
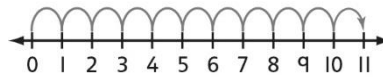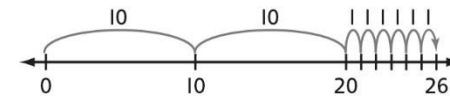
Observations/Documentation

4. Student flexibly decomposes numbers into parts using a number line, but struggles to identify the way that takes the fewest jumps. "I found lots of ways to jump to the number."	5. Student flexibly decomposes numbers into parts using a number line, but struggles to record the jumps in her or his math journal. "I don't know how to write this."	6. Student flexibly decomposes numbers into parts using a number line, identifies the most efficient way, and records work.
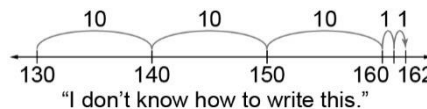
Observations/Documentation

Master 71: Activity 25 Assessment
Composing and Decomposing Numbers to 200

Composing and Decomposing Numbers to 200 Behaviours/Strategies		
1. Student models a 2-digit number using tens and ones (one way). "I modelled 68 on my mat, then used to blocks to make a giraffe."	2. Student models a 3-digit number using tens and ones (one way). "I modelled 168 on my mat, then used to blocks to make a tiger."	3. Student models a 3-digit number another way, but trade was not accurate. "I traded 2 rods for 13 cubes. That's how many more I needed to make the face."
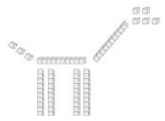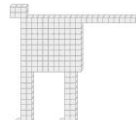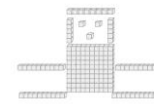
Observations/Documentation

4. Student models a 3-digit number using hundreds, tens, and ones (more than one way). "I traded 2 rods for 20 unit cubes."	5. Student models a 3-digit number in different ways but struggles to understand value of the blocks. "100 hundreds (body) + 20 ones (head) + 40 tens + 8 ones (legs) = 168."	6. Student successfully models a 3-digit number in different ways and records the related addition sentences. "100 (body) + 20 (head) + 48 (legs) = 168."
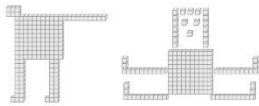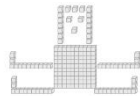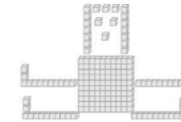
Observations/Documentation

Mathology 2
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Who Am I? Cards

I am two parts of 40.	**I am** between 30 and 40, but closer to 30.	**I am** the other part of 60 when one part is 42.
Start at 20. Take • 3 jumps of 10 • 4 jumps of 1 **What number am I?**	**I am** two parts of 80.	**I am** between 60 and 70, but much closer to 70.
I am the other part of 90 when one part is 63.	Start at 25. Take • 2 jumps of 10 • 1 jump of 5 • 2 jumps of 1 **What number am I?**	**I am** two parts of 100.
I am the other part of 100 when one part is 81.	**I am** between 80 and 90, and the same distance from 80 as from 90.	Start at 5. Take • 1 jump of 10 • 1 jump of 5 • 3 jumps of 1 **What number am I?**

Name_____ Date _____

Who Am I? Cards

I am two parts of 120.	**I am** between 110 and 120, but closer to 110.	**I am** the other part of 150 when one part is 32.
Start at 50. Take • 3 jumps of 25 • 4 jumps of 1 **What number am I?**	**I am** two parts of 170.	**I am** between 165 and 175, but much closer to 175.
I am the other part of 180 when one part is 57.	Start at 25. Take • 2 jumps of 50 • 1 jump of 25 • 2 jumps of 2 **What number am I?**	**I am** two parts of 200.
I am the other part of 200 when one part is 96.	**I am** between 190 and 200, and the same distance from 190 as from 200.	Start at 55. Take • 1 jump of 50 • 3 jumps of 20 • 1 jump of 5 **What number am I?**

Master 72c ## Who Am I? Cards (for Accommodations)

I am two parts of 10.	**I am** between 0 and 10, but closer to 10.	**I am** the other part of 10 when one part is 4.
Start at 0. Take • 2 jumps of 5 • 4 jumps of 1 **What number am I?**	**I am** two parts of 20.	**I am** between 10 and 20, but much closer to 10.
I am the other part of 20 when one part is 12.	Start at 0. Take • 1 jump of 10 • 2 jumps of 1 **What number am I?**	**I am** two parts of 15.
I am the other part of 20 when one part is 6.	**I am** between 10 and 20, and the same distance from 10 as from 20.	Start at 0. Take • 1 jump of 10 • 1 jump of 5 • 3 jumps of 1 **What number am I?**

Number Relationships Behaviours/Strategies

1. To decompose two-digit numbers into parts, student counts out counters and then arranges them in two groups. 35 red 5 yellow	2. To decompose two-digit numbers into parts, student chooses a part and then counts on or back with counters to find the other part. 35 red ● ● ● ● ● "36, 37, 38, 39, 40"	3. Student decomposes two-digit numbers into parts, but struggles to compose two-digit numbers from parts (unable to take jumps of different sizes on a number line).	4. To find a part given the whole and another part, student guesses and then uses counters to check. Whole 60 | Part 42 | Part "Guess 20" "42 counters and 20 counters is 62 counters: too many."

Observations/Documentation

5. To find a part given the whole and another part, student counts on or back with counters or fingers. "43, 44, 45, ..., 58, 59, 60"	6. Student shows benchmark numbers on the number line, but struggles to name a number closer to the given ten. "136 is between 130 and 140, but I don't know which number it is closer to."	7. Student shows benchmark numbers on the number line, but struggles to name the number that is the same distance from both benchmarks. "I don't know what number is the same distance from 180 as from 190."	8. Student successfully demonstrates an understanding of number relationships by using efficient strategies (skip-counting, mental math) to answer cards of all types.

Observations/Documentation

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Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **N3 Operational Sense:** solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division **Cross Strand:** Patterning and Algebra **P2 Expressions and Equality:** demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18			
N3.1 solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies **N3.2** describe relationships between quantities by using whole-number addition and subtraction **N3.5** solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials (e.g., base ten materials, counters), student-generated algorithms, and standard algorithms	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (N3.1, P2.2, P2.4, P2.5) 27: Solving Problems 1 (N3.1, N3.2, N3.5) 28: Solving Problems 2 (N3.1, N3.2, N3.5) 29: Solving Problems 3 (N3.1, N3.2, N3.5) 30: Solving Problems 4 (N3.1, N3.2, N3.5) 31: Conceptualizing Addition and Subtraction Consolidation (N3.1, N3.2, N3.5) **On Grade: Math Every Day Card 6:** What Math Do You See? (N3.1, N3.2, N3.5)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Ontario (continued)

P2.2 represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign **P2.4** identify, through investigation, and use the commutative property of addition to facilitate computation with whole numbers **P2.5** identify, through investigation, the properties of zero in addition and subtraction	What Could the Story Be? (N3.1, N3.2, N3.5)		

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Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Ideas Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value. The regular change in increasing patterns can be identified and used to make generalizations.			
N4 Addition and subtraction to 100 • **N4.3** using strategies such as looking for multiples of 10, friendly numbers, decomposing into 10s and 1s and recomposing, and compensating • **N4.4** adding up to find the difference • **N4.5** using an open number line, hundred chart, ten-frames • **N4.6** using addition and subtraction in real-life contexts and problem-based situations **P3.1** symbolic representation of equality and inequality	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties 27: Solving Problems 1 (N4.3, N4.4, N4.5, N4.6, P3.1) 28: Solving Problems 2 (N4.3, N4.4, N4.5, N4.6, P3.1) 29: Solving Problems 3 (N4.3, N4.4, N4.5, N4.6, P3.1) 30: Solving Problems (N4.3, N4.4, N4.5, N4.6, P3.1) 31: Conceptualizing Addition and Subtraction Consolidation (N4.3, N4.4, N4.5, N4.6, P3.1) **On Grade: Math Every Day Card 6:** What Math Do You See? (N4.6) What Could the Story Be? (N4.6)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

New Brunswick/Prince Edward Island

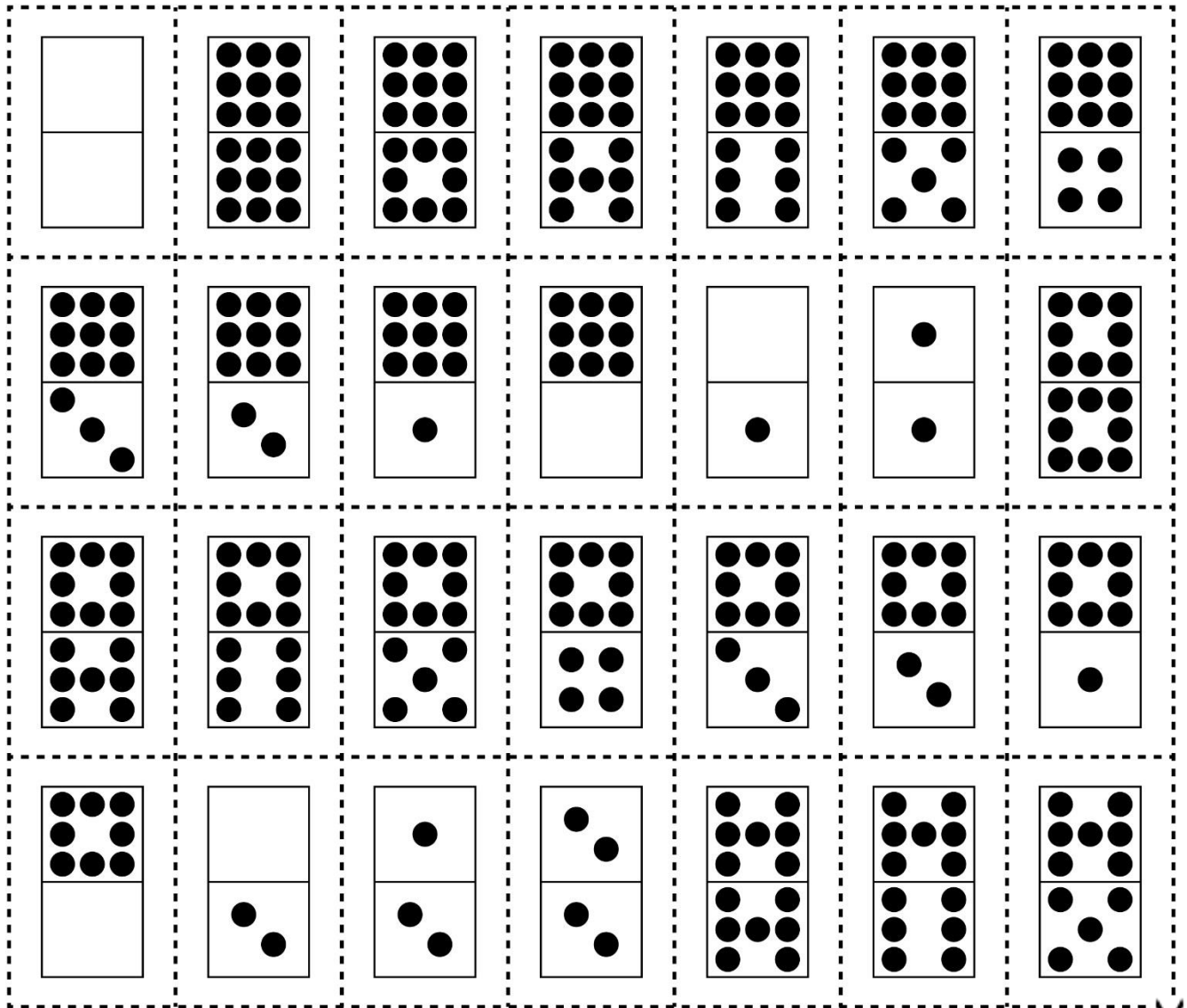| Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
N8 Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **N9a** using personal strategies for adding and subtracting with and without the support of manipulatives • **N9b** creating and solving problems that involve addition and subtraction • **N9c** explaining that the order in which numbers are added does not affect the sum • **N9d** explaining that the order in which numbers are subtracted may affect the difference	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (N8, N9c, N9d, N10a, N10b, 210c, N10d) 27: Solving Problems 1 (N9a, N9b, N10a, N10b, N10c, N10d, N10e, N10f, PR4) 28: Solving Problems 2 (N9a, N9b, N10a, N10b, N10c, N10d, N10e, PR4) 29: Solving Problems 3 (N9a, N9b, N10a, N10b, N10c, N10d, N10e, PR4) 30: Solving Problems (N9a, N9b, N10a, N10b, N10c, N10d, N10e, N10f, PR4) 31: Conceptualizing Addition and Subtraction Consolidation (N9a, N9b, N10a, N10b, N10c, N10d, N10e, N10f, PR4)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

New Brunswick/Prince Edward Island (continued)

N10 Apply mental mathematics strategies, such as: • **N10a** using doubles • **N10b** making 10 • **N10c** one more, one less • **N10d** two more, two less • **N10e** building on a known double • **N10f** addition for subtraction to determine basic addition facts to 18 and related subtraction facts. **PR4** Record equalities and inequalities symbolically using the equal symbol or the not equal symbol.	**On Grade: Math Every Day Card 6:** What Math Do You See? (N9b, N10a, N10b, N10c, N10d, N10e, N10f) What Could the Story Be? (N9b)		

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** Patterns and Relations (Variables and Equations): Represent algebraic expressions in multiple ways.			
2N8 Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **2N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **2N9a** using personal strategies for adding and subtracting with and without the support of manipulatives • **2N9b** creating and solving problems that involve addition and subtraction • **2N9c** explaining that the order in which numbers are added does not affect the sum • **2N9d** explaining that the order in which numbers are subtracted may affect the difference	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (2N8, 2N9c, 2N9d, 2N10) 27: Solving Problems 1 (2N9a, 2N9b, 2N10, 2PR4) 28: Solving Problems 2 (2N9a, 2N9b, 2N10, 2PR4) 29: Solving Problems 3 (2N9a, 2N9b, 2N10, 2PR4) 30: Solving Problems (2N9a, 2N9b, 2N10, 2PR4) 31: Conceptualizing Addition and Subtraction Consolidation (2N9a, 2N9b, 2N10, 2PR4) **On Grade: Math Every Day Card 6:** What Math Do You See? (2N9b, 2N10) What Could the Story Be? (2N9b)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation

Number Cluster 6: Conceptualizing Addition and Subtraction

Newfoundland and Labrador (continued)

2N10 Apply mental mathematics strategies for the basic addition and related subtraction facts to 18. **2PR4** Record equalities and inequalities symbolically using the equal symbol or the not equal symbol.			

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand:** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
2.N.8 Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **2.N.9** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum • explaining that the order in which numbers are subtracted may affect the difference	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (2.N.8, 2.N.9) 27: Solving Problems 1 (2.N.9) 28: Solving Problems 2 (2.N.9) 29: Solving Problems 3 (2.N.9) 30: Solving Problems (2.N.9) 31: Conceptualizing Addition and Subtraction Consolidation (2.N.9) **On Grade: Math Every Day Card 6:** What Math Do You See? (2.N.9, 2.N.10) What Could the Story Be? (2.N.9)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense. **Cross Strand** **Patterns and Relations (Variables and Equations):** Students will be expected to represent algebraic expressions in multiple ways.			
N08 Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number. **N09** Students will be expected to demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by • **N09a** using personal strategies for adding and subtracting with and without the support of manipulatives • **N09b** creating and solving problems that involve addition and subtraction • **N09c** explaining that the order in which numbers are added does not affect the sum • **N09d** explaining and demonstrating that the order in which numbers are subtracted matters	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (N08, N09c, N09d, N10) 27: Solving Problems 1 (N09a, N09b, N10, PR04) 28: Solving Problems 2 (N09a, N09b, N10, PR04) 29: Solving Problems 3 (N09a, N09b, N10, PR04) 30: Solving Problems (N09a, N09b, N10, PR04) 31: Conceptualizing Addition and Subtraction Consolidation (N09a, N09b, 2N10, PR04) **On Grade: Math Every Day Card 6:** What Math Do You See? (N09b, N10) What Could the Story Be? (N09b)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Nova Scotia (continued)

when finding a difference **N10** Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts. **PR04** Students will be expected to record equalities and inequalities symbolically, using the equal symbol or the not equal symbol.			

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
Number **8.** Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **9.** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **9a.** using personal strategies for adding and subtracting with and without the support of manipulatives • **9b.** creating and solving problems that involve addition and subtraction • **9c.** using the commutative property of addition (the order in which numbers are added does not affect the sum)	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (N8, N9c, N9d, N9e, N10) 27: Solving Problems 1 (N9a, N9b, N10, PR5) 28: Solving Problems 2 (N9a, N9b, N10, PR5) 29: Solving Problems 3 (N9a, N9b, N10, PR5) 30: Solving Problems (N9a, N9b, N10, PR5) 31: Conceptualizing Addition and Subtraction Consolidation (N9a, N9b, N10, PR5) **On Grade: Math Every Day Card 6:** What Math Do You See? (N9b, N10) What Could the Story Be? (N9b)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Alberta/Northwest Territories/Nunavut (continued)

• **9d.** using the associative property of addition (grouping a set of numbers in different ways does not affect the sum) • **9e.** explaining that the order in which numbers are subtracted may affect the difference **10.** Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18. **Patterns and Relations** **5.** Record equalities and inequalities symbolically, using the equal symbol or the not equal symbol.			

Mathology 2
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Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour **Cross Strand:** Patterns and Relations			
Number **N2.2** Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • N2.2a representing strategies for adding and subtracting concretely, pictorially, and symbolically • N2.2b creating and solving problems involving addition and subtraction • N2.2c estimating • N2.2d using personal strategies for adding and subtracting with and without the support of manipulatives • N2.2e analyzing the effect of adding or subtracting zero • N2.2f analyzing the effect of the ordering of the quantities (addends, minuends, and subtrahends) in addition and subtraction statements.	**Below Grade: Intervention** 11: Adding and Subtracting to 20 12: Solving Story Problems **On Grade: Teacher Cards** 26: Exploring Properties (N2.2a, N2.2d, N2.2e, N2.2f) 27: Solving Problems 1 (N2.2a, N2.2b, N2.2d, P2.3c) 28: Solving Problems 2 (N2.2a, N2.2b, N2.2d, P2.3c) 29: Solving Problems 3 (N2.2a, N2.2b, N2.2d, P2.3c) 30: Solving Problems (N2.2a, N2.2b, N2.2d, P2.3c) 31: Conceptualizing Addition and Subtraction Consolidation (N2.2a, N2.2b, N2.2d, P2.3c) **On Grade: Math Every Day Card 6:** What Math Do You See? (N2.2b, N2.2d) What Could the Story Be? (N2.2b)	**Below Grade:** • Canada's Oldest Sport (Activities 27, 28, 29, 30, 31) **On Grade:** • Array's Bakery (Activities 27, 28, 29, 30, 31) • Marbles, Alleys, Mibs, and Guli! (Activities 27, 28, 29, 30, 31) • The Great Dogsled Race (Activities 27, 28, 29, 30, 31) **Above Grade:** • Math Makes Me Laugh (Activities 27, 28, 29, 30, 31)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 26, 27, 28, 29, 30, 31) - Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare). (Activities 27, 28, 29, 30, 31; MED 6: 1, 2) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 10. (Activity 26) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 27, 28, 29, 30, 31) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 26)

Curriculum Correlation
Number Cluster 6: Conceptualizing Addition and Subtraction

Saskatchewan (continued)

Patterns and Relations **P2.3** Demonstrate understanding of equality and inequality concretely and pictorially (0 to 100) by: • P2.3c recording equalities with an equal sign			

Mathology 2
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Domino Cards

Domino Cards

Master 76: Activity 27 Assessment
Exploring Properties

Operational Sense Behaviours/Strategies

1. Student turns over a domino, but is unable to use symbols and equations to represent an addition situation.	2. Student uses symbols and equations to represent some addition situations, but struggles when one of the addends is zero.	3. Student uses symbols and equations to represent an addition situation in one way, but does not use the commutative property to represent it another way.	4. Student successfully uses symbols and equations to represent addition and subtraction situations and shows understanding of the zero and commutative properties.
"I don't know how to write an addition sentence for a domino."	"I don't know what to write."	"3 + 4 = 7. I don't know another sentence."	7 + 0 = 7 0 + 7 = 7 7 − 0 = 7
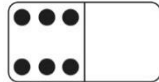
Observations/Documentation

Mental Math and Computational Behaviours/Strategies

1. Student counts three times to add quantities (find the total number of dots).	2. Student counts on from the smaller number to add quantities.	3. Student uses a known fact, doubles, or skip-counting to add quantities.	4. Student fluently adds and subtracts with quantities to 10.
"I, 2, 3" "I, 2, 3, 4" "I, 2, 3, 4, 5, 6, 7"	 "3" "4, 5, 6, 7"	 "I know 3 + 3 = 6, so 3 + 4 = 7."	 "I know 3 + 4 = 7."
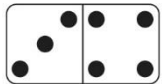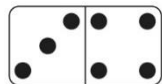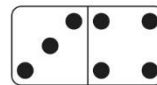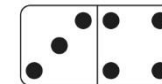
Observations/Documentation

Story Problems

(**Master 77**) **Story Problems**

Story Problems	Number Sentence
The local library got 63 new 📖 today. At lunchtime, only 16 📖 were left in the library. How many 📖 got signed out?	
👧👦 had a 🍪 sale and made 87 🥧 . The 👧👦 gave some 🥧 to a 🐱 shelter. Now 👧👦 have 12 🥧 . How many 🥧 did 👧👦 give to the 🐱 shelter?	
100 🫐 were on a bush. Along came a 🐻 . Now there are 11 🫐 . How many 🫐 did the 🐻 eat?	

Master 78: Activity 28 Assessment
Solving Problems 1

Conceptual Understanding of Story Problems Behaviours/Strategies

1. Student reads story problem, but is unable to model add-to and take-from situations with concrete materials.	2. Student models and solves problems, but cannot use symbols and equations to represent the problems.	3. Student uses symbols to write a subtraction equation, but struggles to see the relation among the numbers. 26 – ? = 9	4. Student models and solves addition and subtraction problem types and uses symbols and equations to represent the problems. 50 – 21 = ? 11 + ? = 100

Observations/Documentation

Addition and Subtraction Computational Behaviours/Strategies

1. Student counts three times to add or subtract quantities, but struggles to coordinate number words with counting actions. "One"	2. Student counts three times to add or subtract quantities. "1, 2, 3, …, 6, 7, 8, 9" "1, 2, 3, 4" "1, 2, 3, 4, 5"	3. Student counts on or back to add or subtract quantities. "25, 24, 23, 22, 21, 20, 19, 18, 17"	4. Student uses mental strategies to add or subtract quantities. "9 and 1 more is 10. 10 and 16 is 26. 16 and 1 is 17. So, 17 books were signed out."
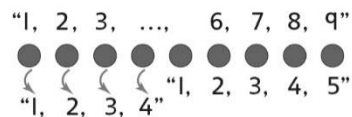
Observations/Documentation

Name_____ Date _____

Think Board A

Story Problem
Su has 7 red balloons and 4 green balloons. How many balloons does she have altogether?

My Picture

My Number Sentence

Name_____ Date _____

Story Problems 2
(Whole Unknown)

Note: Story Problem Card 3 is for use as an accommodation.

Last year, I ordered
25 ribbons for field day.
This year, I want to
order 11 more.
How many ribbons
should I order?

Ravi read 37 pages in
his book before lunch.
After lunch, he read
17 more pages.
How many pages did
Ravi read altogether?

There are 6 students
on the bus.
At the next stop,
3 students get on.
How many students
are now on the bus?

Ava has 43 marbles.
Her sister, Ada, has
52 marbles.
How many marbles do
they have altogether?

Name_____ Date _____

Story Problems 2
(Whole Unknown)

Yesterday, 88 geese landed at the pond. Today, 15 more geese joined them. How many geese are at the pond now?

Anna has 37 seashells. The next day, she finds 33 more.
How many seashells does Anna have now?
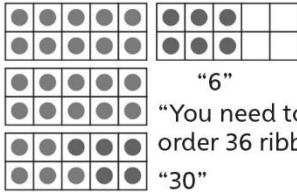
There are 44 people on the train. The train stops and 19 people get on. At the next stop, 35 people get on. How many people are on the train now?

Jason has 47 stickers. His brother, Rory, has 52 stickers.
How many stickers do they have altogether?

Master 81: Activity 29 Assessment
Solving Problems 2

Conceptual Understanding of Story Problems Behaviours/Strategies

1. Student reads story problem, but is unable to model add-to situations with concrete materials.
 	
    "I don't know what to do."
	2. Student models and solves addition problems, but cannot use symbols and equations to represent the problems.	3. Student models and solves addition problems and writes addition sentences, but struggles to represent thinking.
		
		    "25 + 11 = ?" or "25 + 11 = 36"
		    "What do I draw?"
			4. Student successfully models and solves addition problem types, uses symbols and equations to represent the problems, and represents thinking on the Think Board.

Observations/Documentation

Addition Computational Behaviours/Strategies

1. Student counts three times to add quantities. The answer may not be accurate.
 	
    "1, 2, 3, ..., 23, 24, 25"
    "1, 2, 3, ..., 9, 10, 11"
    "1, 2, 3, ..., 34, 35, 36"
	2. Student counts on to add quantities.
	
	    "26, 27, 28, ..., 34, 35, 36"
		3. Student counts efficiently to add quantities (e.g., makes 10, subitizes).
		
		    "6"
		    "You need to order 36 ribbons."
		    "30"
			4. Student uses mental strategies flexibly and accurately to add quantities.
			
			    "85 + 10 = 95, and 95 + 1 = 96"

Observations/Documentation

Mathology 2
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Name_____ Date _____

Story Problems 3
(Part Unknown: Joining)

Note: Story Problem Card 3 is for use as an accommodation.

1

Samson has
29 marbles.
His friend gives him
some more.
Now he has
42 marbles.
How many marbles did
his friend give him?

2

Julie picked 17 apples on
Saturday morning.
She picked some more
apples in the
afternoon.
She picked 38 apples
altogether.
How many apples did
Julie pick in the
afternoon?

3

There are 4 ladybugs
on a leaf.
Some more ladybugs
fly in and join them.
Now there are
10 ladybugs on the leaf.
How many ladybugs
flew in and joined
them?

4

There are 19 cars in
the parking lot.
When the store opens,
more cars arrive.
Now there are 57 cars
in the parking lot.
How many cars arrived
when the store
opened?

Story Problems 3
(Part Unknown: Joining)

5

Tyler bakes 48 dog treats in the morning. In the afternoon, he bakes some more dog treats. Now he has 96 dog treats altogether. How many dog treats did he bake in the afternoon?

6

The ants were on the move. In the morning, 27 ants left the anthill. At lunchtime, some more ants left the anthill. In the afternoon, 31 more ants left the anthill. Altogether, 72 ants left the anthill. How many ants left at lunchtime?

7

There are 17 butterflies in a field. An hour later, 19 more butterflies arrive. In the evening, some more butterflies arrive. Now there are 54 butterflies in the field. How many butterflies arrived in the evening?

8

Lila and her brother Matt held a weekend car wash. On Saturday, they washed 31 cars. On Sunday, they washed some more cars. They washed 83 cars altogether. How many cars did they wash on Sunday?

Master 83: Activity 30 Assessment
Solving Problems 3

Conceptual Understanding of Story Problems Behaviours/Strategies

1. Student reads story problem, but is unable to model add-to and take-from situations with concrete materials.	2. Student models and solves the problem, but cannot use symbols and equations to represent it. "The answer is 13. I don't know the number sentence."	3. Student successfully models and solves the problem and writes an addition sentence, but struggles to relate the addition problem to a subtraction problem. "29 + 13 = 42" "It's not a subtraction problem."	4. Student successfully models and solves the problem and uses symbols and equations to represent it. "29 + 13 = 42" "42 − 29 = 13" "His friend gave him 13 marbles."

Observations/Documentation

Addition Computational Behaviours/Strategies

1. Student models problem with counters, but struggles to coordinate number words with counting actions. ●●●● "One" 👉	2. Student counts three times to add or subtract quantities. "1, 2, 3, …, 41, 42" counts all "1, 2, 3, …, 28, 29" counts to remove "1, 2, 3, …, 12, 13" counts leftover	3. Student counts on or back with counters to add or subtract quantities. "30, 31, 32, …, 40, 41, 42"	4. Student uses mental strategies flexibly and accurately to add or subtract quantities. "29 and 1 more is 30. 30 and 10 more is 40. 40 and 2 more is 42. 1 + 10 + 2 = 13."

Observations/Documentation

Name_____ Date _____

Story Problem Starters

There are _____ _____ in the bin.
           NUMBER   OBJECT 1

There are _____ _____ in the bin.
           NUMBER   OBJECT 2

How many _____ and _____
           OBJECT 1   OBJECT 2

are in the bin altogether?

There are _____ _____ in the bin.
           NUMBER   OBJECT 1

I take _____ _____ out of the bin.
        NUMBER   OBJECT 2

How many _____ are left in the bin?
           OBJECT 1

Master 85: Activity 31 Assessment
Solving Problems 4
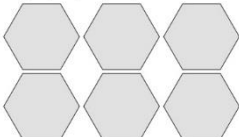
Conceptual Understanding of Addition and Subtraction Behaviours/Strategies

1. Student takes objects from bin, but has difficulty using them to create an addition and subtraction problem.	2. Student creates an addition problem, but has difficulty creating a subtraction problem.	3. Student creates addition and subtraction problems, but cannot use symbols and equations to represent them.	4. Student creates addition and subtraction problems and uses symbols and equations to represent them.
		"I don't know how to write a number sentence."	$31 + 9 = ?$ "Answer is 40." $71 - ? = 13$ "Answer is 58."

Observations/Documentation

Addition and Subtraction Computational Behaviours/Strategies

1. Student counts three times to add or subtract quantities.	2. Student guesses and then counts on or back to add or subtract quantities to check.	3. Student counts on or back to add or subtract quantities.	4. Student uses mental strategies flexibly and accurately to add or subtract quantities.
"1, 2, 3, 4, 5" ▲▲▲▲▲ "1, 2, 3, 4, 5, 6" ⬡⬡⬡ ⬡⬡⬡ "1, 2, 3, …, 9, 10, 11"	Guess 7: 13, 14, 15, 16, 17, 18, 19 "Not enough."	"19, 18, 17, 16, 15, 14, 13, 12" ●●●●●●●● 👉	"I know 25 + 25 is 50. So, 25 + 26 is 1 more, or 51."

Observations/Documentation

Name_____ Date _____

Think Board B

| **Story Problem** |
| Jose has 15 tickets to sell for the school play. |
| He has sold 6 tickets. |
| How many more tickets does he have left to sell? |

My Picture

My Number Sentence

Name_____ Date _____

Problem Cards

Take Away Problem (Part Unknown)

Rahmi and Kea collect 36 coloured stones. Rahmi takes out the 8 green stones. How many stones are left?	33 birds are sitting in a tree. Some birds fly away. Now there are 21 birds in the tree. How many birds flew away?

Take Away Problem (Whole Unknown)	Join Problem (Part Unknown)
Some children are on a bus. No children get off at the first stop. Now 28 children are left on the bus. How many children were on the bus to begin with?	Ali made a tower with linking cubes. He added 19 more cubes to the tower. The tower now has 31 cubes. How many cubes did the tower have to begin with?

Join Problem (Part Unknown)

There are 16 cows in the barn. More cows come to join them. Now there are 35 cows in the barn. How many came to join them?	24 grapes are in a bowl. 19 are red and the rest are green. How many green grapes are in the bowl?

Join Problem (Whole Unknown)

Sienna has 18 stickers. Dakota gives her 13 more stickers. How many stickers does Sienna have now?	There are 16 red apples and 18 green apples in a basket. How many apples are there altogether?

Comparison Problem	Make Equal Problem
Serena collected 16 shells on the beach. Roger collected 27 shells. How many more shells did Roger collect than Serena? (How many fewer shells did Serena collect than Roger?)	There are 27 students in the class. Everyone needs a marker. Krishan has 16 markers to give out. How many more markers does he need for everyone to get a marker?

Master 87b

Problem Cards

Take Away Problem (Part Unknown)

Rahmi and Kea collect 76 coloured stones. Rahmi takes out the 25 green stones. How many stones are left?	43 birds are sitting in a tree. Some birds fly away. An hour later, 13 more birds fly away. Now there are 19 birds in the tree. How many birds first flew away?

Take Away Problem (Whole Unknown) | ### Join Problem (Part Unknown)

Some children are on a bus. No children get off at the first stop. Now 41 children are left on the bus. How many children were on the bus to begin with?	Ali made a tower with linking cubes. He added 19 more cubes to the tower. Then he added 6 more cubes. The tower now has 53 cubes. How many cubes did the tower have to begin with?

Join Problem (Part Unknown)

There are 36 cows in the field. More cows come to join them. Now there are 72 cows in the field. How many came to join them?	34 grapes are in a bowl. 19 are red, 6 are purple, and the rest are green. How many green grapes are in the bowl?

Join Problem (Whole Unknown)

Sienna has 57 stickers. Dakota gives her 22 more stickers. How many stickers does Sienna have now?	There are 14 red apples, 10 yellow apples, and 8 green apples in a basket. How many apples are there altogether?

Name_____ Date _____

Problem Cards

Comparison Problem

Serena collected 36 shells on the beach. Roger collected 39 shells. How many more shells did Roger collect than Serena? (How many fewer shells did Serena collect than Roger?)

Make Equal Problem

There are 27 students in the class. Everyone needs a marker. Krishan has 11 blue markers and 13 black markers to give out. How many more markers does he need for everyone to get a marker?

Name_____ Date _____

Problem Cards

Take Away Problem (Part Unknown)

Rahmi and Kea collect 12 coloured stones. Rahmi takes out the 10 green stones. How many stones are left?	13 birds are sitting in a tree. Some birds fly away. Now there are 10 birds in the tree. How many birds flew away?

Take Away Problem (Whole Unknown)

Some children are on a bus. No children get off at the first stop. Now 7 children are left on the bus. How many children were on the bus to begin with?

Join Problem (Part Unknown)
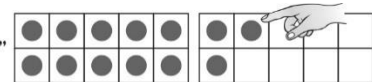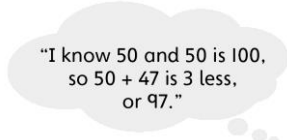
There are 8 cows in the barn. More cows come to join them. Now there are 13 cows in the barn. How many came to join them?	Ali made a tower with linking cubes. He added 19 more cubes to the tower. The tower now has 31 cubes. How many cubes did the tower have to begin with?

Join Problem (Whole Unknown)

Sienna has 9 stickers. Dakota gives her 6 more stickers. How many stickers does Sienna have now?

Master 88: Activity 32 Assessment
Conceptualizing Addition and Subtraction: Consolidation

Conceptual Understanding of Story Problems Behaviours/Strategies

1. Student reads story problem, but is unable to model add-to and take-from situations with concrete materials.	2. Student models the problem, but uses the wrong operation to solve it.	3. Student models and solves the problem, but cannot use symbols and equations to represent it.	4. Student successfully models, solves, and symbolizes addition and subtraction problem types and represents thinking on the Think Board.

Observations/Documentation

Addition and Subtraction Computational Behaviours/Strategies

1. Student counts three times to add or subtract quantities. "1, 2, 3, …, 7, 8, 9" ⬤⬤⬤⬤⬤⬤⬤⬤⬤ counts 9 "1, 2, 3, 4, 5, 6" ⬤⬤⬤⬤⬤⬤ counts 6 "1, 2, 3, …, 13, 14, 15" counts all	2. Student counts on or back to add or subtract quantities. "35, 34, 33, …, 30, 29, 28" "36" ⬤⬤⬤⬤⬤⬤⬤⬤	3. Student counts efficiently to add or subtract quantities (e.g., makes 10 and then counts on or subitizes). "18" [ten frame] "28" "29, 30, 31"	4. Student uses mental strategies flexibly and accurately to add or subtract quantities. "I know 50 and 50 is 100, so 50 + 47 is 3 less, or 97."

Observations/Documentation

Curriculum Correlation
Number Cluster 7: Operational Fluency

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **N.1** Quantity Relationships: read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢ **N3 Operational Sense:** solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division **Cross Strand:** Patterning and Algebra **P2 Expressions and Equality:** demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18			
N1.3 compose and decompose two-digit numbers in a variety of ways, using concrete materials **N3.1** solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies **N3.2** describe relationships between quantities by using whole-number addition and subtraction **N3.5** solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials (e.g.,	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (N3.1, N3.2, P2.2, P2.4) 33: Using Doubles (N3.1) 34: Fluency with 20 (N3.1, N3.2, P2.1) 35: Multi-Digit Fluency (N3.1, N3.2, N3.5) 36: Operational Fluency Consolidation (N3.1, N3.2) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (N3.1) I Have… I Need… (N1.3, N3.1, N3.5)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35)

Curriculum Correlation
Number Cluster 7: Operational Fluency

Ontario (continued)

	Card 7B:	Above Grade:	Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
base ten materials, counters), student-generated algorithms, and standard algorithms **P2.1** demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials **P2.2** represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign **P2.4** identify, through investigation, and use the commutative property of addition to facilitate computation with whole numbers	Hungry Bird (N3.1, N3.2, N3.5) Make 10 Sequences (N3.1, N3.5)	• Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

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Curriculum Correlation
Number Cluster 7: Operational Fluency

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Ideas Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value. The regular change in increasing patterns can be identified and used to make generalizations.			
N3 Addition and subtraction facts to 20 (introduction of computational strategies) • **N3.1** adding and subtracting numbers to 20 • **N3.2** fluency with math strategies for addition and subtraction **N4 Addition and subtraction to 100** • **N4.1** decomposing numbers to 100 • **N4.2** estimating sums and differences to 100 • **N4.3** using strategies such as looking for multiples of 10, friendly numbers, decomposing into 10s and 1s and recomposing, and compensating • **N4.4** adding up to find the difference	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (N3.1, N3.2, P2.1) 33: Using Doubles (N3.1, N3.2, P3.1) 34: Fluency with 20 (N3.1, N3.2, P3.1) 35: Multi-Digit Fluency (N4.2, N4.3, N4.4, N4.5, N4.6) 36: Operational Fluency Consolidation (N3.1, N3.2, N4.2, N4.3, N4.4, N4.5, N4.6) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (N3.1, N3.2, N4.7) I Have… I Need… (N3.1, N3.2, N4.1, N4.3, N4.4, N4.5, P2.1) **Card 7B:** Hungry Bird (N3.1, N3.2, N4.3, N4.4, N4.5, N4.6) Make 10 Sequences (N3.1, N3.2, N4.3, N4.7)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36)

Curriculum Correlation
Number Cluster 7: Operational Fluency

British Columbia/Yukon Territories (continued)

• **N4.5** using an open number line, hundred chart, ten-frames • **N4.6** using addition and subtraction in real-life contexts and problem-based situations • **N4.7** whole-class number talks **P2 Change in quantity using pictorial and symbolic representation** • **P2.1** numerically describing a change in quantity P3 symbolic representation of equality and inequality			- Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

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Curriculum Correlation
Number Cluster 7: Operational Fluency

New Brunswick/Prince Edward Island

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand:** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
N8 Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **N9a** using personal strategies for adding and subtracting with and without the support of manipulatives • **N9b** creating and solving problems that involve addition and subtraction • **N9c** explaining that the order in which numbers are added does not affect the sum	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (N8, N9c, N10b) 33: Using Doubles (N10a, N10e, PR4) 34: Fluency with 20 (N10a, N10b, N10c, N10d, N10e, N10f, PR4) 35: Multi-Digit Fluency 36: Operational Fluency Consolidation (N10a, N10b, N10c, N10d, N10e, N10f) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (N10a, N10e) I Have… I Need… (N9a, N10f) **Card 7B:** Hungry Bird (N9a, N9b, N10f) Make 10 Sequences (N10b)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

Curriculum Correlation
Number Cluster 7: Operational Fluency
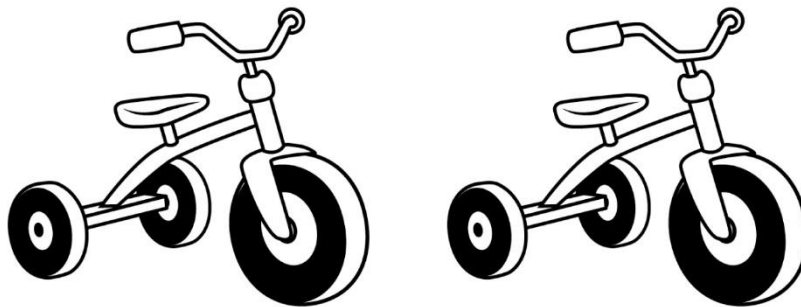
New Brunswick/Prince Edward Island (continued)

• **N9d** explaining that the order in which numbers are subtracted may affect the difference **N10** Apply mental mathematics strategies, such as: • **N10a** using doubles • **N10b** making 10 • **N10c** one more, one less • **N10d** two more, two less • **N10e** building on a known double • **N10f** addition for subtraction to determine basic addition facts to 18 and related subtraction facts. **PR4** Record equalities and inequalities symbolically using the equal symbol or the not equal symbol.			

Curriculum Correlation
Number Cluster 7: Operational Fluency

Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
2N8 Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **2N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **2N9a** using personal strategies for adding and subtracting with and without the support of manipulatives • **2N9b** creating and solving problems that involve addition and subtraction • **2N9c** explaining that the order in which numbers are added does not affect the sum • **2N9d** explaining that the order in which numbers are subtracted may affect the difference	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (2N8, 2N9c, 2N10) 33: Using Doubles (2N10, 2PR4) 34: Fluency with 20 (2N10, 2PR4) 35: Multi-Digit Fluency 36: Operational Fluency Consolidation (2N10) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (2N10) I Have… I Need… (2N9a, 2N10) **Card 7B:** Hungry Bird (2N9a, 2N9b, 2N10) Make 10 Sequences (2N10)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36)

Curriculum Correlation
Number Cluster 7: Operational Fluency

Newfoundland and Labrador (continued)

N10 Apply mental mathematics strategies for the basic addition and related subtraction facts to 18. **PR4** Record equalities and inequalities symbolically using the equal symbol or the not equal symbol.			- Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

Curriculum Correlation
Number Cluster 7: Operational Fluency

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
2.N.9 Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum • explaining that the order in which numbers are subtracted may affect the difference	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (2.N.10) 33: Using Doubles (2.N.10) 34: Fluency with 20 (2.N.10) 35: Multi-Digit Fluency (2.N.9) 36: Operational Fluency Consolidation (2.N.10) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (2.N.10) I Have… I Need… (2.N.10) **Card 7B:** Hungry Bird (2.N.10) Make 10 Sequences (2.N.10)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36)

Manitoba (continued)

2.N.10 Apply mental mathematics strategies, including • using doubles • making ten • using one more, one less • using two more, two less • building on a known double • using addition for subtraction to develop recall of basic addition facts to 18 and related subtraction facts			- Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

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Curriculum Correlation
Number Cluster 7: Operational Fluency

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense. **Cross Strand** **Patterns and Relations (Variables and Equations):** Students will be expected to represent algebraic expressions in multiple ways.			
N08 Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number. **N09** Students will be expected to demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by • **N09a** using personal strategies for adding and subtracting with and without the support of manipulatives • **N09b** creating and solving problems that involve addition and subtraction • **N09c** explaining that the order in which numbers are added does not affect the sum • **N09d** explaining and demonstrating that the order in which numbers are subtracted matters	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (N08, N09c, N10) 33: Using Doubles (N10, PR04) 34: Fluency with 20 (N10, PR04) 35: Multi-Digit Fluency 36: Operational Fluency Consolidation (N10) **On Grade: Math Every Day** **Card 7A:** Doubles and Near-Doubles (N10) I Have… I Need… (N09a, N10) **Card 7B:** Hungry Bird (N09a, N09b, N10) Make 10 Sequences (N10)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36)

Curriculum Correlation
Number Cluster 7: Operational Fluency

Nova Scotia (continued)

when finding a difference **N10** Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts. **PR04** Students will be expected to record equalities and inequalities symbolically, using the equal symbol or not equal symbol.			- Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

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Curriculum Correlation
Number Cluster 7: Operational Fluency

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Variables and Equations):** Represent algebraic expressions in multiple ways.			
Number **8.** Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **9.** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **9a.** using personal strategies for adding and subtracting with and without the support of manipulatives • **9b.** creating and solving problems that involve addition and subtraction • **9c.** using the commutative property of	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (N8, N9c, N10) 33: Using Doubles (N10, PR5) 34: Fluency with 20 (N10, PR5) 35: Multi-Digit Fluency 36: Operational Fluency Consolidation (N10) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (N10) I Have… I Need… (N9a, N10) **Card 7B:** Hungry Bird (N9a, N9b, N10) Make 10 Sequences (N10)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36)

Curriculum Correlation
Number Cluster 7: Operational Fluency

Alberta/Northwest Territories/Nunavut (continued)

addition (the order in which numbers are added does not affect the sum) • **9d.** using the associative property of addition (grouping a set of numbers in different ways does not affect the sum) • **9e.** explaining that the order in which numbers are subtracted may affect the difference **10.** Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18. **Patterns and Relations** **5** Students will be expected to record equalities and inequalities symbolically, using the equal symbol or not equal symbol.			- Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

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Curriculum Correlation
Number Cluster 7: Operational Fluency

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour **Cross Strand:** Patterns and Relations			
N2.2 Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • N2.2a representing strategies for adding and subtracting concretely, pictorially, and symbolically • N2.2b creating and solving problems involving addition and subtraction • N2.2c estimating • N2.2d using personal strategies for adding and subtracting with and without the support of manipulatives • N2.2e analyzing the effect of adding or subtracting zero • N2.2f analyzing the effect of the ordering of the quantities (addends, minuends, and subtrahends) in addition and subtraction statements**.**	**Below Grade: Intervention** 13: Making 10 14: Finding Doubles **On Grade: Teacher Cards** 32: Complements of 10 (N2.2a, N2.2e, N2.2f) 33: Using Doubles (N2.2a, P2.3c) 34: Fluency with 20 (N2.2a, P2.3c) 35: Multi-Digit Fluency 36: Operational Fluency Consolidation (N2.2a) **On Grade: Math Every Day Card 7A:** Doubles and Near-Doubles (N2.2a) I Have… I Need… (N2.2a, N2.2d) **Card 7B:** Hungry Bird (N2.2a, N2.2b, N2.2d) Make 10 Sequences (N2.2a)	**Below Grade:** • That's 10! (Activity 32) • Buy 1—Get 1 (Activities 33, 34, 36) • Canada's Oldest Sport (Activities 34, 36) **On Grade:** • What Would You Rather? (Activity 33) • Array's Bakery (Activities 34, 36) • Marbles, Alleys, Mibs, and Guli! (Activity 35) • A Class-full of Projects (Activities 35, 36) • The Money Jar (Activity 35) • The Great Dogsled Race (Activity 35) **Above Grade:** • Planting Seeds (Activity 33) • Math Makes Me Laugh (Activities 35, 36) • The Street Party (Activities 35, 36)	**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 33, 34, 35) **Developing Fluency of Addition and Subtraction Computation** - Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). (Activity 32) - Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6). (Activities 33, 34, 36; MED 7A: 1; MED 7B: 2) - Fluently adds and subtracts with quantities to 20. (Activities 34, 36; MED 7A: 2; MED 7B: 1, 2) - Develops efficient mental strategies and algorithms to solve equations with multi-digit numbers. (Activity 35; MED 7A: 2) - Estimates sums and differences of multi-digit numbers. (Activity 35) **Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Decomposes and combines numbers in equations to make them easier to solve (e.g., 8 + 5 = 3 + 5 + 5). (Activities 34, 35, 36)

Curriculum Correlation
Number Cluster 7: Operational Fluency

Saskatchewan (continued)

Patterns and Relations **P2.3** Demonstrate understanding of equality and inequality concretely and pictorially (0 to 100) by: • P2.3c recording equalities with an equal sign			- Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activity 32; MED 7A: 1)

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Common Doubles

1 + 1 = 2
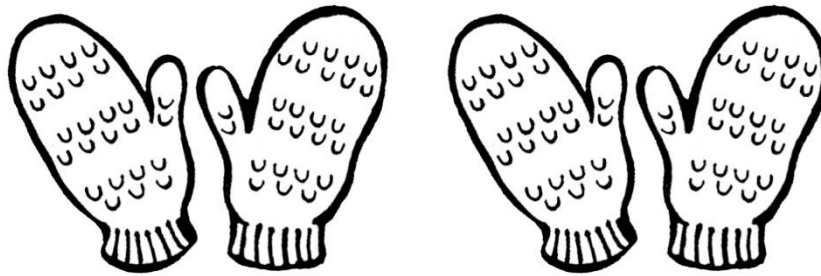
2 + 2 = 4

3 + 3 = 6

Master 90b   # Common Doubles

$$4 + 4 = 8$$

$$5 + 5 = 10$$

$$6 + 6 = 12$$

Name_____ Date _____
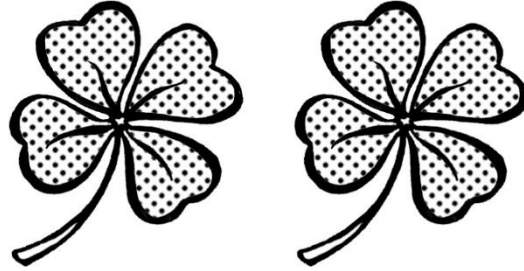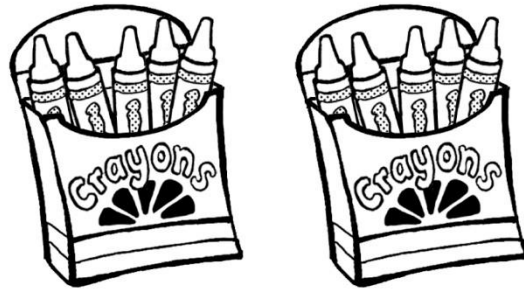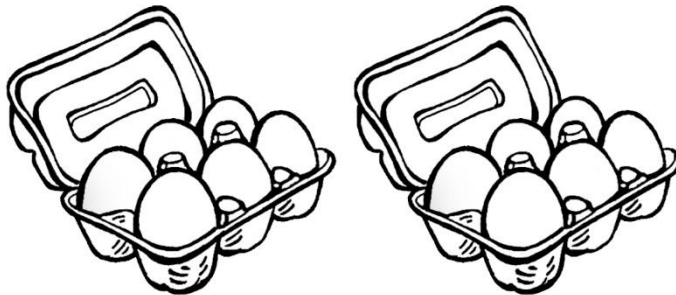
Common Doubles
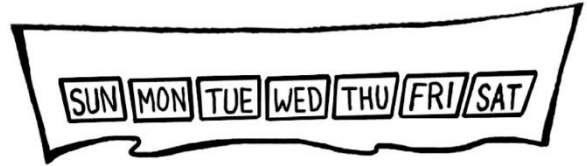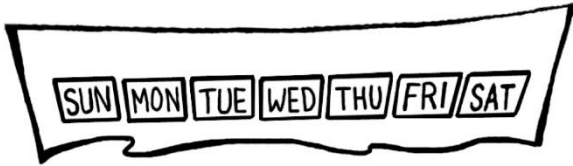
$7 + 7 = 14$
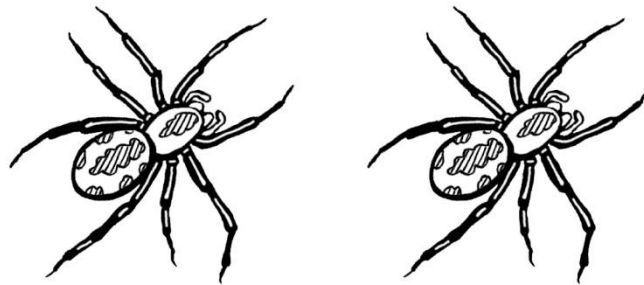
$8 + 8 = 16$
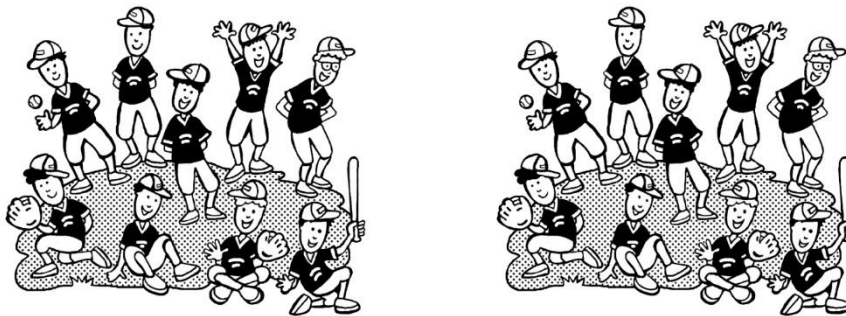
$9 + 9 = 18$

Master 91: Activity 33 Assessment
Using Doubles

Using Known Doubles Behaviours/Strategies
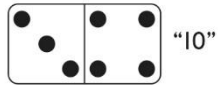
1. Student guesses and is unable to extend known sums to solve other equations. "10"	2. Student counts all the dots by 1s and is unable to extend known sums to solve other equations. "1, 2, 3, 4, 5, 6, 7"	3. Student counts on to find the number of dots and is unable to extend known sums to solve other equations. "3" "4, 5, 6, 7"	4. Student extends known sums to solve other equations, but refers to doubles pictures. 5 + 5 = 10
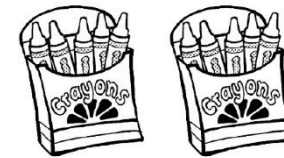
Observations/Documentation

5. Student has quick recall of known sums (doubles), but cannot extend them to solve other equations. "I know 4 and 4 is 8."	6. Student extends known sums to solve other equations, but cannot explain strategy used. "4 and 5 is 9."	7. Student fluently extends known sums to solve other equations, but struggles to write the number sentence.	8. Student fluently extends known sums to solve other equations and writes number sentences.

Observations/Documentation

Master 92a **Four in a Line Cards**

9 + 5	8 + 6	7 + 7
8 + 7	6 + 9	4 + 11
7 + 9	8 + 8	4 + 12
5 + 8	6 + 7	9 + 4
13 – 8	14 – 9	12 – 7
12 – 6	11 – 5	13 – 7
13 – 6	16 – 9	15 – 8

Master 92b

Four in a Line Cards
(for Combined Grades Extension)

17 + 23	18 + 22	19 + 21
21 + 16	29 + 8	25 + 12
25 + 23	29 + 19	32 + 16
15 + 16	19 + 12	22 + 9
38 – 19	40 – 21	31 – 12
22 – 11	43 – 32	31 – 20
20 + 21	22 + 19	12 + 29

Master 93

Three in a Line Cards
(for Accommodations)

2 + 8	3 + 7	6 + 4
2 + 3	1 + 4	10 − 5
1 + 3	2 + 2	10 − 6
3 + 3	4 + 2	8 − 2
6 + 1	3 + 4	9 − 2
4 + 4	9 − 1	5 + 3

Name_____ Date _____

Four in a Line Game Board
(for Combined Grades Extension)

40	37	48	19	31
41	19	11	41	37
11	37	31	48	19
31	41	40	11	48
40	19	11	37	31
37	31	48	19	40
48	41	40	31	41
40	19	37	48	11

Adding and Subtracting Numbers to 20 Behaviours/Strategies

1. Student uses ten-frames and counters to add and subtract with quantities to 20. "1, 2, 3, 4, 5, 6"	2. Student counts on or back to add and subtract with quantities to 20. 7 + 9 "7" "8, 9, 10, …, 14, 15, 16"	3. Student uses ten-frames and counters to make 10 when adding and subtracting with quantities to 20.	4. Student refers to doubles pictures when extending known sums to add and subtract with quantities to 20. "6 + 7 = ?" 6 + 6 = 12
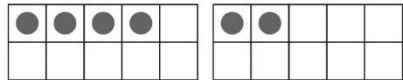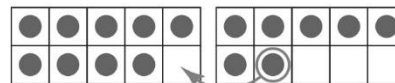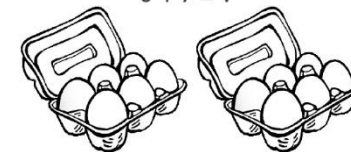
Observations/Documentation

5. Student uses the same strategy in every situation when adding and subtracting with quantities to 20. "I like to count on!"	6. Student fluently adds with quantities to 20, but counts back by 1s to subtract. 11 – 5 = ? "10, 9, 8, 7, 6"	7. Student adds and subtracts with quantities to 20 and extends known sums and differences to solve other equations, but struggles to explain thinking.	8. Student fluently adds and subtracts with quantities to 20, extends known sums and differences to solve other equations, and explains thinking.

Observations/Documentation

Name_____ Date _____

Think Board C

Story Problem

My Picture

My Number Sentence

Master 97: Activity 35 Assessment
Mastering Addition and Subtraction Facts

Adding and Subtracting Numbers to 20 Behaviours/Strategies		
1. Student fluently adds and subtracts within 5. **"I know 4 + 1 = 5 and 5 − 1 = 4."**	2. Student fluently adds and subtracts to 10. **"I know 8 + 2 = 10 and 10 − 2 = 8." (complements to 10)**	3. Student fluently adds and subtracts to 20. **"I can use doubles. I know 9 + 9 = 18 and 18 − 9 = 9."**
Observations/Documentation		

Using Known Facts and Mental Math Behaviours/Strategies		
4. Student uses known sums and differences to solve addition and subtraction equations. **25 + 17 = ___ "I know 25 + 20 = 45, and 45 minus 3 is 42." (decomposing, known facts)**	5. Student uses properties and inverse operations of addition and subtraction to solve problems. **41 − ___ = 12 "I can think addition to help me solve the problem: 12 + ___ = 41."**	6. Student uses related facts and develops mental strategies and algorithms. **19 + 22 = ___ "I take 1 from 22 and give it to 19 to get 20 + 21. 20 + 20 = 40, and 1 more is 41." (compensation)**
Observations/Documentation		

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Name_____ Date _____

Question Cards

19 + 23	8 + 37
11 + 33	29 + 21
35 − 29	50 − 31
24 − 12	47 − 38

Name_____ Date _____

Question Cards (for Accommodations)

19 + 12	18 + 10
12 + 13	23 + 11
25 − 19	20 − 16
19 − 12	22 − 11

Name_____ Date _____

Multi-Digit Fluency Recording Sheet

Our question:

Our estimate:

What we did:
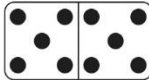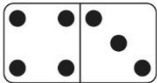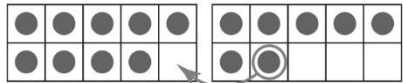
Master 100: Activity 36 Assessment
Multi-Digit Fluency

Estimating Sums and Differences Behaviours/Strategies

1. Student guesses and is unable to estimate sums and differences. 19 + 31 "200!"	2. Student estimates sums and differences, but estimate is unreasonable. 19 + 31 "20"	3. Student estimates sums and differences, but changes estimate to match actual sum or difference.	4. Student successfully estimates sums and differences of multi-digit numbers.

Observations/Documentation

Adding and Subtracting with Multi-Digit Numbers Behaviours/Strategies

1. Student counts and does not use efficient mental strategies to solve equations.	2. Student uses the same mental strategy to solve all equations with multi-digit numbers.	3. Student uses efficient mental strategies to solve addition equations with multi-digit numbers, but struggles with subtraction.	4. Student successfully uses efficient mental strategies to solve equations with multi-digit numbers.

Observations/Documentation

Master 101: Activity 37 Assessment
Operational Fluency: Consolidation

Adding and Subtracting Numbers to 20 Behaviours/Strategies

1. Student counts to add and subtract with quantities to 20. "1, 2, 3, …, 8, 9, 10"	2. Student counts on or back to add and subtract with quantities to 20. "4" "5, 6, 7"	3. Student uses ten-frames and counters or other materials to show a strategy when adding and subtracting with quantities to 20.	4. Student refers to doubles pictures when extending known sums to add and subtract with quantities to 20. "8 + 9 = ?" 8 + 8 = 16

Observations/Documentation

5. Student uses the same strategy in every situation to add and subtract with quantities to 20. "I like to use doubles!"	6. Student fluently adds with quantities to 20, but counts back by 1s to subtract.	7. Student adds and subtracts with quantities to 20 and extends known sums to solve other equations, but struggles to explain thinking.	8. Student fluently adds and subtracts with quantities to 20, extends known sums to solve other equations, and explains thinking.

Observations/Documentation

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points **N3 Operational Sense:** solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division **Cross Strand:** Patterning and Algebra **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns **P2 Expressions and Equality:** demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18			
N2.1 Count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 **N3.3** represent and explain, through investigation using concrete materials and drawings, multiplication as the combining of equal groups **N3.4** represent and explain, through investigation using concrete materials and drawings, division as the sharing of a quantity equally	**Below Grade: Intervention** 15: How Many Do You See? 16: Messy and Organize It **On Grade: Teacher Cards** 37: Grouping in 2s, 5s, and 10s (N2.1, N3.3, N3.4, P2.1) 38: Making Equal Shares (N3.3, N3.4) 39: Making Equal Groups (N3.3, N3.4, P2.1) 40: Exploring Repeated Addition (N2.1, N3.3, P1.1, P1.7) 41: Repeated Addition and Multiplication (N2.1, N3.3, P1.1, P1.7) 42: Early Multiplicative Thinking Consolidation (N2.1, N3.3, N3.4, P1.1, P1.7, P2.1)	**Below Grade:** • How Many Is Too Many? (Activities 37, 39, 42) **On Grade:** • What Would You Rather? (Activity 37) • Ways to Count (Activity 37) • Family Fun Day (Activities 37, 39) • The Best Birthday (Activity 38) • Array's Birthday (Activities 38, 39, 40, 41, 42) • Marbles, Alleys, Mibs, and Guli! (Activities 39, 40, 41, 42) **Above Grade:**	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 37, 40, 41; MED 8A: 1, 2; MED 8B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 37, 41; MED 8A: 1, 2) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 37, 39) **Big Idea: Quantities and numbers can be grouped by, and partitioned into, units to determine how many or how much.** **Developing Conceptual Meaning of Multiplication and Division**

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Ontario (continued)

P1.1 identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart **P1.7** demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation). **P2.1** demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials	**On Grade: Math Every Day Card 8A:** Counting Equal Groups to Find How Many (N2.1) I Spy (N2.1, N2.14, P1.7) **Card 8B:** How Many Blocks? (N2.1, N2.14, P1.7) How Many Ways? (N2.1, N2.14, P1.1, P1.7, P2.1)	• Calla's Jingle Dress (Activities 38, 39, 40, 41, 42) • Sports Camp (Activities 40, 41, 42) • Planting Seeds (Activities 41, 42)	- Groups objects in 2s, 5s, and 10s. (Activities 37, 39, 42, MED 8B: 2) - Models and solves equal sharing problems to 100. (Activities 38, 42) - Models and solves equal grouping problems to 100. (Activities 39, 42) - Uses repeated addition of groups to solve problems. (Activities 40, 41, MED 8B: 1) - Models equal groups and uses multiplication symbol (✕) to symbolize operation. (Activities 41, 42; MED 8A: 2; MED 8B: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 40, 41, MED 8A: 2; MED 8B: 1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 40, 41, 42, MED 8A: 2, MED 8B: 2)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
Number **10.** Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18.	**Below Grade: Intervention** 15: How Many Do You See? 16: Messy and Organize It **On Grade: Teacher Cards** 37: Grouping in 2s, 5s, and 10s 38: Making Equal Shares 39: Making Equal Groups 40: Exploring Repeated Addition (N10) 41: Repeated Addition and Multiplication 42: Early Multiplicative Thinking Consolidation (N10) **On Grade: Math Every Day Card 8A:** Counting Equal Groups to Find How Many I Spy **Card 8B:** How Many Blocks? How Many Ways?	**Below Grade:** • How Many Is Too Many? (Activities 37, 39, 42) **On Grade:** • What Would You Rather? (Activity 37) • Ways to Count (Activity 37) • Family Fun Day (Activities 37, 39) • The Best Birthday (Activity 38) • Array's Birthday (Activities 38, 39, 40, 41, 42) • Marbles, Alleys, Mibs, and Guli! (Activities 39, 40, 41, 42) **Above Grade:** • Calla's Jingle Dress (Activities 38, 39, 40, 41, 42) • Sports Camp (Activities 40, 41, 42) • Planting Seeds (Activities 41, 42)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 37, 40, 41; MED 8A: 1, 2; MED 8B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 37, 41; MED 8A: 1, 2) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 37, 39) **Big Idea: Quantities and numbers can be grouped by, and partitioned into, units to determine how many or how much.** **Developing Conceptual Meaning of Multiplication and Division** - Groups objects in 2s, 5s, and 10s. (Activities 37, 39, 42, MED 8B: 2) - Models and solves equal sharing problems to 100. (Activities 38, 42) - Models and solves equal grouping problems to 100. (Activities 39, 42) - Uses repeated addition of groups to solve problems. (Activities 40, 41, MED 8B: 1)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Alberta/Northwest Territories/Nunavut (continued)

			- Models equal groups and uses multiplication symbol (✗) to symbolize operation. (Activities 41, 42; MED 8A: 2; MED 8B: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 40, 41, MED 8A: 2; MED 8B: 1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 40, 41, 42, MED 8A: 2, MED 8B: 2)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
2N10 Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18.	**Below Grade: Intervention** 15: How Many Do You See? 16: Messy and Organize It **On Grade: Teacher Cards** 37: Grouping in 2s, 5s, and 10s 38: Making Equal Shares 39: Making Equal Groups 40: Exploring Repeated Addition (2N10) 41: Repeated Addition and Multiplication 42: Early Multiplicative Thinking Consolidation (2N10) **On Grade: Math Every Day Card 8A:** Counting Equal Groups to Find How Many I Spy **Card 8B:** How Many Blocks? How Many Ways?	**Below Grade:** • How Many Is Too Many? (Activities 37, 39, 42) **On Grade:** • What Would You Rather? (Activity 37) • Ways to Count (Activity 37) • Family Fun Day (Activities 37, 39) • The Best Birthday (Activity 38) • Array's Birthday (Activities 38, 39, 40, 41, 42) • Marbles, Alleys, Mibs, and Guli! (Activities 39, 40, 41, 42) **Above Grade:** • Calla's Jingle Dress (Activities 38, 39, 40, 41, 42) • Sports Camp (Activities 40, 41, 42) • Planting Seeds (Activities 41, 42)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 37, 40, 41; MED 8A: 1, 2; MED 8B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 37, 41; MED 8A: 1, 2) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 37, 39) **Big Idea: Quantities and numbers can be grouped by, and partitioned into, units to determine how many or how much.** **Developing Conceptual Meaning of Multiplication and Division** - Groups objects in 2s, 5s, and 10s. (Activities 37, 39, 42, MED 8B: 2) - Models and solves equal sharing problems to 100. (Activities 38, 42) - Models and solves equal grouping problems to 100. (Activities 39, 42) - Uses repeated addition of groups to solve problems. (Activities 40, 41, MED 8B: 1)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Newfoundland and Labrador (continued)

			- Models equal groups and uses multiplication symbol (✗) to symbolize operation. (Activities 41, 42; MED 8A: 2; MED 8B: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 40, 41, MED 8A: 2; MED 8B: 1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 40, 41, 42, MED 8A: 2, MED 8B: 2)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
N10 Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.	**Below Grade: Intervention** 15: How Many Do You See? 16: Messy and Organize It **On Grade: Teacher Cards** 37: Grouping in 2s, 5s, and 10s 38: Making Equal Shares 39: Making Equal Groups 40: Exploring Repeated Addition (N10) 41: Repeated Addition and Multiplication 42: Early Multiplicative Thinking Consolidation (N10) **On Grade: Math Every Day** **Card 8A:** Counting Equal Groups to Find How Many I Spy **Card 8B:** How Many Blocks? How Many Ways?	**Below Grade:** • How Many Is Too Many? (Activities 37, 39, 42) **On Grade:** • What Would You Rather? (Activity 37) • Ways to Count (Activity 37) • Family Fun Day (Activities 37, 39) • The Best Birthday (Activity 38) • Array's Birthday (Activities 38, 39, 40, 41, 42) • Marbles, Alleys, Mibs, and Guli! (Activities 39, 40, 41, 42) **Above Grade:** • Calla's Jingle Dress (Activities 38, 39, 40, 41, 42) • Sports Camp (Activities 40, 41, 42) • Planting Seeds (Activities 41, 42)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 37, 40, 41; MED 8A: 1, 2; MED 8B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 37, 41; MED 8A: 1, 2) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 37, 39) **Big Idea: Quantities and numbers can be grouped by, and partitioned into, units to determine how many or how much.** **Developing Conceptual Meaning of Multiplication and Division** - Groups objects in 2s, 5s, and 10s. (Activities 37, 39, 42, MED 8B: 2) - Models and solves equal sharing problems to 100. (Activities 38, 42) - Models and solves equal grouping problems to 100. (Activities 39, 42) - Uses repeated addition of groups to solve problems. (Activities 40, 41, MED 8B: 1)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Newfoundland and Labrador (continued)

			- Models equal groups and uses multiplication symbol (✕) to symbolize operation. (Activities 41, 42; MED 8A: 2; MED 8B: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 40, 41, MED 8A: 2; MED 8B: 1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 40, 41, 42, MED 8A: 2, MED 8B: 2)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense			
N2.1 Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • N2.1a representing (including place value) • N2.1b describing • **N2.1c skip counting** • N2.1d differentiating between odd and even numbers • N2.1e estimating with referents • N2.1f comparing two numbers • N2.1g ordering three or more numbers	**Below Grade: Intervention** 15: How Many Do You See? 16: Messy and Organize It **On Grade: Teacher Cards** 37: Grouping in 2s, 5s, and 10s (N2.1c) 38: Making Equal Shares 39: Making Equal Groups 40: Exploring Repeated Addition 41: Repeated Addition and Multiplication 42: Early Multiplicative Thinking Consolidation **On Grade: Math Every Day Card 8A:** Counting Equal Groups to Find How Many I Spy **Card 8B:** How Many Blocks? How Many Ways?	**Below Grade:** • How Many Is Too Many? (Activities 37, 39, 42) **On Grade:** • What Would You Rather? (Activity 37) • Ways to Count (Activity 37) • Family Fun Day (Activities 37, 39) • The Best Birthday (Activity 38) • Array's Birthday (Activities 38, 39, 40, 41, 42) • Marbles, Alleys, Mibs, and Guli! (Activities 39, 40, 41, 42) **Above Grade:** • Calla's Jingle Dress (Activities 38, 39, 40, 41, 42) • Sports Camp (Activities 40, 41, 42) • Planting Seeds (Activities 41, 42)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 37, 40, 41; MED 8A: 1, 2; MED 8B: 1, 2) **Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.** **Unitizing Quantities and Comparing Units to the Whole** - Partitions into and skip-counts by equal-sized units and recognizes that the results will be the same when counted by ones (e.g., counting a set by 1s or by 5s gives the same result). (Activities 37, 41; MED 8A: 1, 2) - Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set. (Activities 37, 39) **Big Idea: Quantities and numbers can be grouped by, and partitioned into, units to determine how many or how much.** **Developing Conceptual Meaning of Multiplication and Division** - Groups objects in 2s, 5s, and 10s. (Activities 37, 39, 42, MED 8B: 2) - Models and solves equal sharing problems to 100. (Activities 38, 42) - Models and solves equal grouping problems to 100. (Activities 39, 42) - Uses repeated addition of groups to solve problems. (Activities 40, 41, MED 8B: 1)

Curriculum Correlation
Number Cluster 8: Early Multiplicative Thinking

Saskatchewan (continued)

			- Models equal groups and uses multiplication symbol (✗) to symbolize operation. (Activities 41, 42; MED 8A: 2; MED 8B: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Representing and Generalizing Increasing/Decreasing Patterns - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 40, 41, MED 8A: 2; MED 8B: 1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 40, 41, 42, MED 8A: 2, MED 8B: 2)

Mathology 2
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Name_____ Date _____

Our Equal-Sharing Problem

_____ has _____ _____.
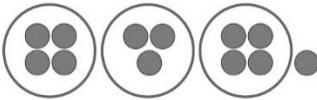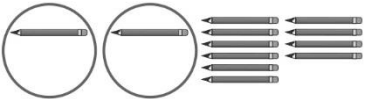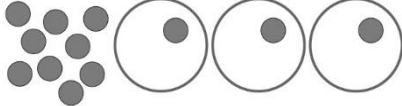
_____ wants to share them equally among

_____ friends. How many will each friend get?

Our Solution

Master 104: Activity 38 Assessment
Making Equal Shares
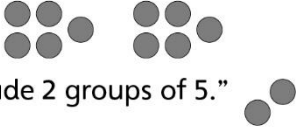
Solving Equal-Sharing Problems Behaviours/Strategies			
1. Student solves equal-sharing problem, but miscounts and does not start with the correct number of items.	2. Student solves equal-sharing problem, but does not share the items equally.	3. Student solves equal-sharing problem, but does not share all of the items.	4. Student solves equal-sharing problem, but does not share the items among the correct number of children.
Observations/Documentation			

5. Student successfully solves equal-sharing problem by sharing items one at a time, but is only comfortable sharing between 2 children.	6. Student successfully solves equal-sharing problem by sharing items one at a time among any number of children.	7. Student successfully solves equal-sharing problem by sharing more than one item at a time but, in his or her own problem, uses a number that cannot be shared equally.	8. Student successfully solves equal-sharing problem and, in her or his own problem, uses a number that can be shared equally. "Betty has 12 coins. She wants to share them equally among 4 children."
Observations/Documentation			

Name_____ Date _____

Making Equal Groups Recording Sheet

Number of Students: 24

Number of Groups	Group Size

Master 106: Activity 39 Assessment
Making Equal Groups

Solving Equal-Grouping Problems Behaviours/Strategies

1. Student solves equal-grouping problem, but miscounts and does not start with 12 items.	2. Student solves equal-grouping problem, but not all groups are of the same size.	3. Student solves equal-grouping problem, but ignores the fact that there are leftover items. "I made 2 groups of 5."	4. Student solves equal-grouping problem in one way, but struggles to find other ways. "I can't find another way."

Observations/Documentation

5. Student solves equal grouping problem, but struggles to represent different ways on paper.	6. Student solves equal-grouping problem, but does not realize that as the number of items in a group increases, the number of equal groups decreases.	7. Student solves equal-grouping problem, but does not recognize the relationship between opposite groupings.	8. Student successfully solves equal-grouping problem and recognizes all patterns.

Observations/Documentation

Name_____ Date _____

Our Repeated Addition Problems
Recording Sheet

Picture of Object

How many

_____ **on** _____ _____?

_____ **on** _____ _____?

_____ **on** _____ _____?

_____ **on** _____ _____?
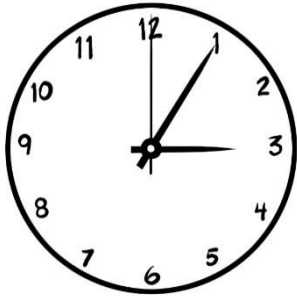
How Many? Objects

1 clock has 3 hands.
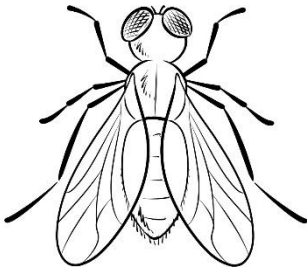
1 insect has 6 legs.

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7

1 week has 7 days.
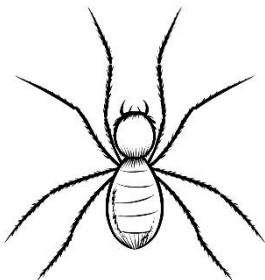
1 spider has 8 legs.
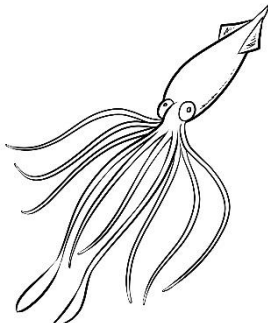
1 squid has 10 limbs.

Name_____ Date _____

How Many? Objects

1 popsicle has 2 halves.
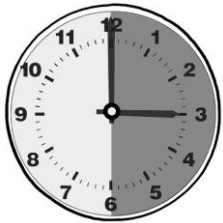
1 hour has 2 halves.
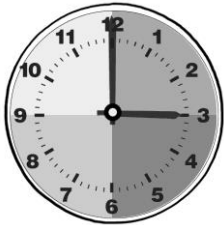
1 hour has 4 fourths.
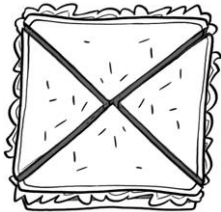
1 sandwich has 4 fourths.
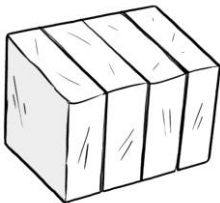
1 block of modelling clay has 4 fourths.

Name_____ Date _____

How Many Halves or Fourths?
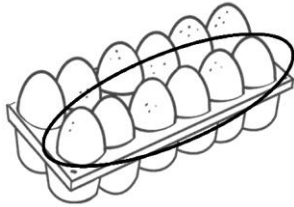
How many…	
halves are in 1 dozen eggs?	halves are in 2 dozen eggs?
halves are in 3 dozen eggs?	halves are in 4 dozen eggs?
halves are in 5 dozen eggs?	halves are in 6 dozen eggs?

Which problem could you solve with the number sentence

$$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = ?$$

How many…	
fourths are in 1 orange?	fourths are in 2 oranges?
fourths are in 3 oranges?	fourths are in 4 oranges?
fourths are in 4 oranges?	fourths are in 6 oranges?

Which problem could you solve with the number sentence

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = ?$$

Master 110: Activity 40 Assessment
Exploring Repeated Addition

Using Repeated Addition to Solve Problems Behaviours/Strategies

1. Student chooses a problem set, but miscounts or mixes up numbers in the counting sequence. "1, 2, 3" "4, 5, 6, 7" "9, 10"	2. Student uses repeated addition of groups to solve problems, but loses track of the count when counting or skip-counting. "I'm not sure if I counted the wheels on 3 bicycles or 4 bicycles."	3. Student uses repeated addition of groups to solve problems, but counts all the items by 1s. "1 2 3 4 5 6"

Observations/Documentation

4. Student uses repeated addition of groups and skip-counts to solve problems, but struggles to write or match repeated addition sentences. "2, 4, 6" "I don't know what to write."	5. Student uses repeated addition of groups, skip-counts to solve problems, and writes/matches repeated addition sentences. "2, 4, 6" 2 + 2 + 2	6. Student uses repeated addition of groups to solve problems (using what is known from previous problems) and writes/matches repeated addition sentences. "There are 8 legs on 2 chairs, so there are 8 and 4 more legs, or 12 legs, on 3 chairs."

Observations/Documentation

Name_____ Date _____

Repeated Addition Problems

Side A
There are 2 shoes in a pair.
How many shoes are in 4 pairs?

Side A
There are 3 wheels on a tricycle.
How many wheels are on 4 tricycles?
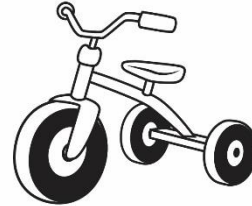
Side A
There are 4 wheels on a car.
How many wheels are on 3 cars?

Side A
A glove has 5 fingers.
How many fingers do 2 gloves have?

Side A
A guitar has 6 strings.
How many strings do 2 guitars have?
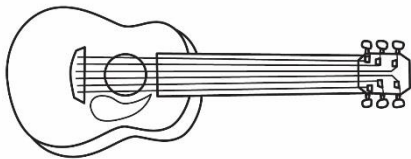
Side A
There are 3 sides on a triangle.
How many sides are on 3 triangles?
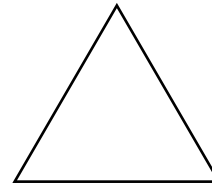
Side B
A star has 5 points.
How many points do 5 stars have?
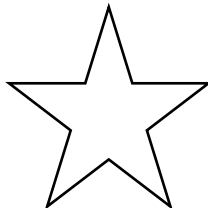
Side B
A wolf has 2 ears.
How many ears do 7 wolves have?

Name_____ Date _____

Repeated Addition Problems

Side B There are 4 leaves on a four-leaf clover. How many leaves are on 6 four-leaf clovers?	**Side B** A muffin tin holds 6 muffins. How many muffins do 5 tins hold?
Side B There are 7 days in a week. How many days are in 4 weeks?	**Side B** A scorpion has 8 legs. How many legs do 3 scorpions have?
Side B A stop sign has 8 sides. How many sides do 2 stop signs have?	**Side B** A baseball team has 9 players. How many players do 3 teams have?
Side B Wieners come in packages of 10. How many wieners are in 3 packages?	**Side B** Eggs come in cartons of 12. How many eggs are in 2 cartons?
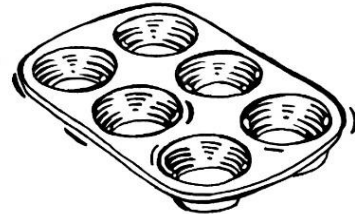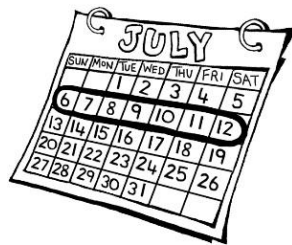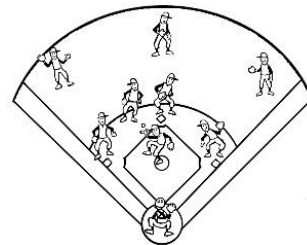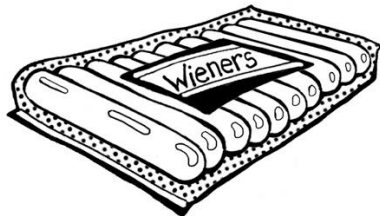
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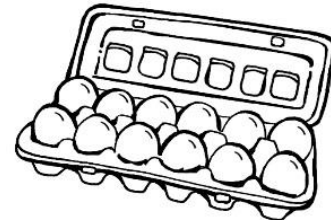
**Repeated Addition Problems
with Fractions**

MU Card 9 A tennis court has two halves. How many halves do 3 tennis courts have?	**MU Card 9** A block of butter has 4 fourths. How many fourths do 5 blocks of butter have?
MU Card 9 $5 is one-half of $10. How many $5 bills would make $30?	**MU Card 9** One quarter is one-fourth of a dollar. How many dollars do you have if you have 16 quarters?
MU Card 9 A trapezoid is one-half of a hexagon. How many hexagons would 6 trapezoids make?	**MU Card 9** In basketball practice, Tyrell runs across half of the court. If he runs across half the court 6 times, how many full courts does he run?
MU Card 9 A sock is one-half of a pair. If you have 8 socks, how many pairs do you have?	**MU Card 9** A glove is one-half of a pair. If you have 10 pairs, how many gloves do you have?
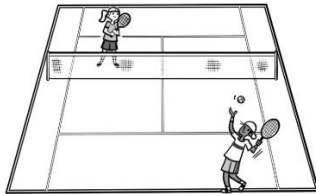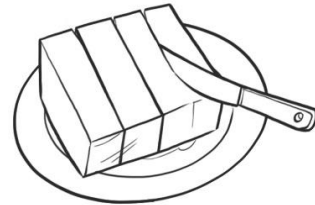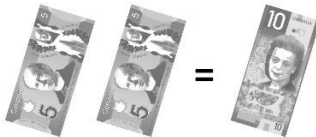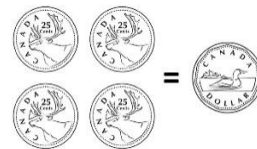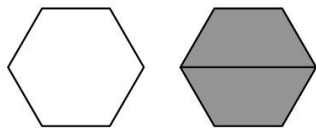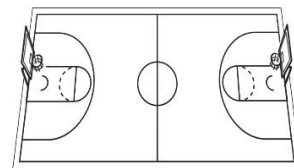
Master 112: Activity 41 Assessment
Repeated Addition and Multiplication

Repeated Addition and Multiplication Behaviours/Strategies			
1. Student uses repeated addition of groups of cubes to solve the problem, but miscounts or makes groups of different sizes. "1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11"	2. Student uses repeated addition of groups to solve the problem by modelling with groups of cubes.	3. Student uses repeated addition of groups to solve the problem by modelling with one group of cubes. "1, 2, 3, 4, 5, 6, Or "3, 6, 9, 12" 7, 8, 9, 10, 11, 12"	4. Student uses repeated addition of groups to solve the problem by placing trains of cubes on a number line and then counting by 1s or skip-counting. 0 —————— 12
Observations/Documentation			
5. Student uses repeated addition of groups to solve the problem by taking equal jumps on a number line, but mixes up the length of the arc with the number of items. 4 4 4 0 —————— 12	6. Student uses repeated addition of groups to solve the problem by taking equal jumps on a number line, but struggles to write a repeated addition sentence. 3 3 3 3 0 —————— 12 "I don't know how to write an addition sentence."	7. Student uses repeated addition of groups to solve the problem by taking equal jumps on a number line, writes a repeated addition sentence, but struggles to write a multiplication sentence. 3 3 3 3 0 —————— 12 "3 + 3 + 3 + 3 = 12. That's the only number sentence I can write."	8. Student successfully uses repeated addition of groups to solve the problem, writes a repeated addition sentence, and uses multiplication symbol to symbolize the operation.
Observations/Documentation			
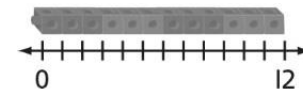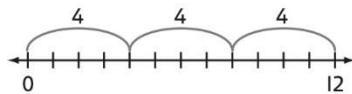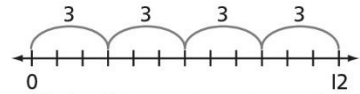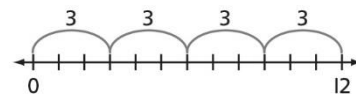
Mathology 2
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(**Master 113a**)   # Division Problems

Equal-Grouping Problems

Priya has 12 ride tickets. Each ride is 3 tickets. How many rides can Priya go on?	Ben has 10 scoops of ice cream. He puts 2 scoops on a cone. How many ice cream cones can he make?
Mother robin brought 8 worms to the nest to feed her babies. Each baby gets 2 worms. How many babies can she feed?	Twelve children are in line for the Ferris wheel. Each car holds 4 children. How many cars do they need?

Equal-Sharing Problems
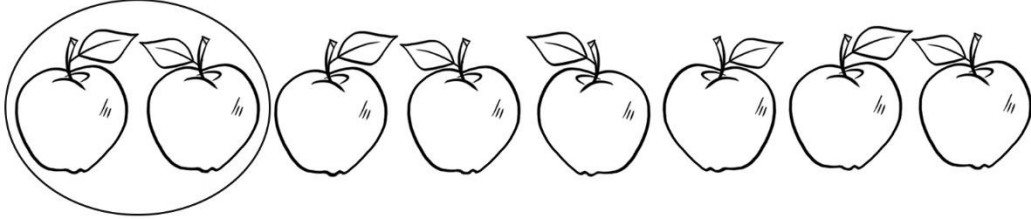
At summer camp, 9 girl campers need to share 3 tents equally. How many girls will be in each tent?	Ben has 10 strawberries to share equally among 5 fruit smoothies. How many strawberries can he put in each?
12 students want to divide themselves into 4 equal teams to play a game. How many students will be on each team?	Felix has 6 toy cars to share equally among 3 loot bags. How many toy cars will be in each bag?

Name_____ Date _____
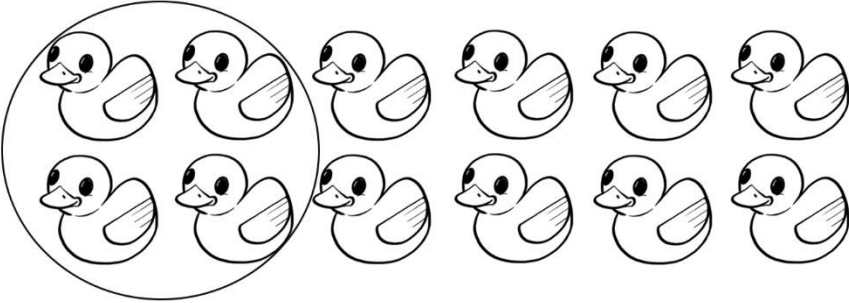
Division Problems
(Accommodation)

Equal-Grouping Problems
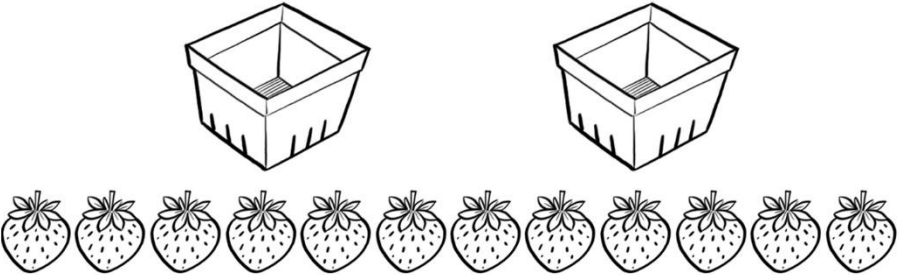
Equal-Sharing Problems

Name_____ Date _____

Division Problems
(Combined Grades Extension)

Equal-Grouping Problems

Nathan has 45 building blocks. He wants to build towers with 9 cubes in each. How many towers can Nathan build?	Luca has 72 pieces of pepperoni. He wants to put 9 pieces on each small pizza. How many pizzas can Luca make?
Mia raised $56 selling face masks for her school. Each mask sold for $7. How many masks did she sell?	There are 48 students waiting to go on the roller coaster. Each car holds 6 students. How many cars will they fill?

Equal-Sharing Problems

Camilla wants to share 50 apples equally among the 10 horses in the stable. How many apples should each horse get?	Five students are to take equal turns playing a video game. They have 45 minutes altogether. How long is each student's turn?
There are 54 chairs. They are to be divided equally among 9 tables. How many chairs will be at each table?	Jonah has collected 32 toys from kids' meals. He wants to display them equally on 4 shelves. How many toys will be on each shelf?

Master 114: Activity 42 Assessment
Repeated Subtraction and Division

Repeated Subtraction and Division Behaviours/Strategies

1. Student identifies what is known and what needs to be found in division problem.	2. Student models and concretely shares items equally.	3. Student uses drawings to represent equal sharing and grouping situations.
Ben has 10 strawberries to share equally among 5 fruit smoothies. How many strawberries can he put in each? "I know there are 5 equal groups, and I need to find how many are in each group."	"1 for you and 1 for you,…"	Ben has 10 scoops of ice cream. He puts 2 scoops on a cone. How many ice cream cones can he make? "I drew 2 scoops of ice cream on each cone until I had 10 scoops altogether. There are 5 cones."
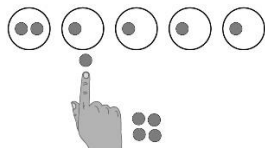
Observations/Documentation

Repeated Subtraction and Division Behaviours/Strategies

4. Student uses repeated subtraction to represent equal sharing and grouping situations.	5. Student understands the relation between repeated subtraction and division.	6. Student models and solves equal sharing and grouping situations using a variety of strategies and uses inverse relations to check.
$10 - 2 - 2 - 2 - 2 - 2 = 0$ "There are 5 groups of 2."	$10 - 2 - 2 - 2 - 2 - 2 = 0$ $10 \div 2 = 5$	$10 \div 2 = 5$ "Since $5 \times 2 = 10$. I know my answer is correct."
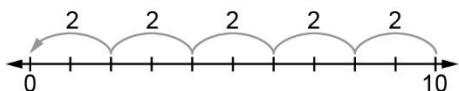
Observations/Documentation

Item Cards

1	**2**	**3**
4	**5**	**6**
8	**9**	**10**
12		

Name_____ Date _____

Item Cards
(for Combined Grades Extension)

14	**15**	**16**
18	**20**	**24**
25	**28**	**30**
32		

Name_____ Date _____

People Cards

Master 117: Activity 43 Assessment
Early Multiplicative Thinking: Consolidation

Equal Sharing Behaviours/Strategies			
1. Student turns over a card, but struggles to say the number name sequence forward and does not start with correct number of items.	2. Student shares items, but does not share the items equally.	3. Student shares items equally by sharing one item at a time.	4. Student successfully shares items equally by sharing more than one item at a time (partitive sharing).
Observations/Documentation			

Equal Grouping Behaviours/Strategies			
1. Student arranges objects in groups, but not all groups are of the same size.	2. Student arranges objects in equal groups, but ignores the leftovers. "I made 2 groups of 5."	3. Student arranges objects in equal groups, but struggles to write a number sentence. "I don't know what to write."	4. Student arranges objects in equal groups and writes a repeated addition (subtraction) and multiplication (division) sentence. $4 + 4 + 4 = 12$ $12 - 4 - 4 - 4 = 0$ $3 \times 4 = 12$ $12 \div 4 = 3$
Observations/Documentation			

Curriculum Correlation
Number Cluster 9: Financial Literacy

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **N1 Quantity Relationships:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢ **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points **N3 Operational Sense:** solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division **Cross Strand:** Patterning and Algebra **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns			
N1.1 represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools **N1.3** compose and decompose two-digit numbers in a variety of ways, using concrete materials **N1.8** estimate, count, and represent (using the ¢ symbol) the value of a collection of coins with a maximum value of one dollar. **N2.1** count forward by 1's, 2's, 5's, 10's, and 25's to 200, using	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (N1.1, N1.3, N1.8, N2.1, P2.1) 44: Earning Money (N1.3, N1.8, N2.1, N3.1, N3.2, P2.1) 45: Spending Money 46: Saving Regularly (N1.1, N1.3, N1.8, N2.1, N3.1, N3.2) 47: Financial Literacy Consolidation **On Grade: Math Every Day Card 9:** Collections of Coins (N1.8, N2.1) Showing Money in Different Ways (N1.3)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) Estimating Quantities and Numbers - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Ontario (continued)

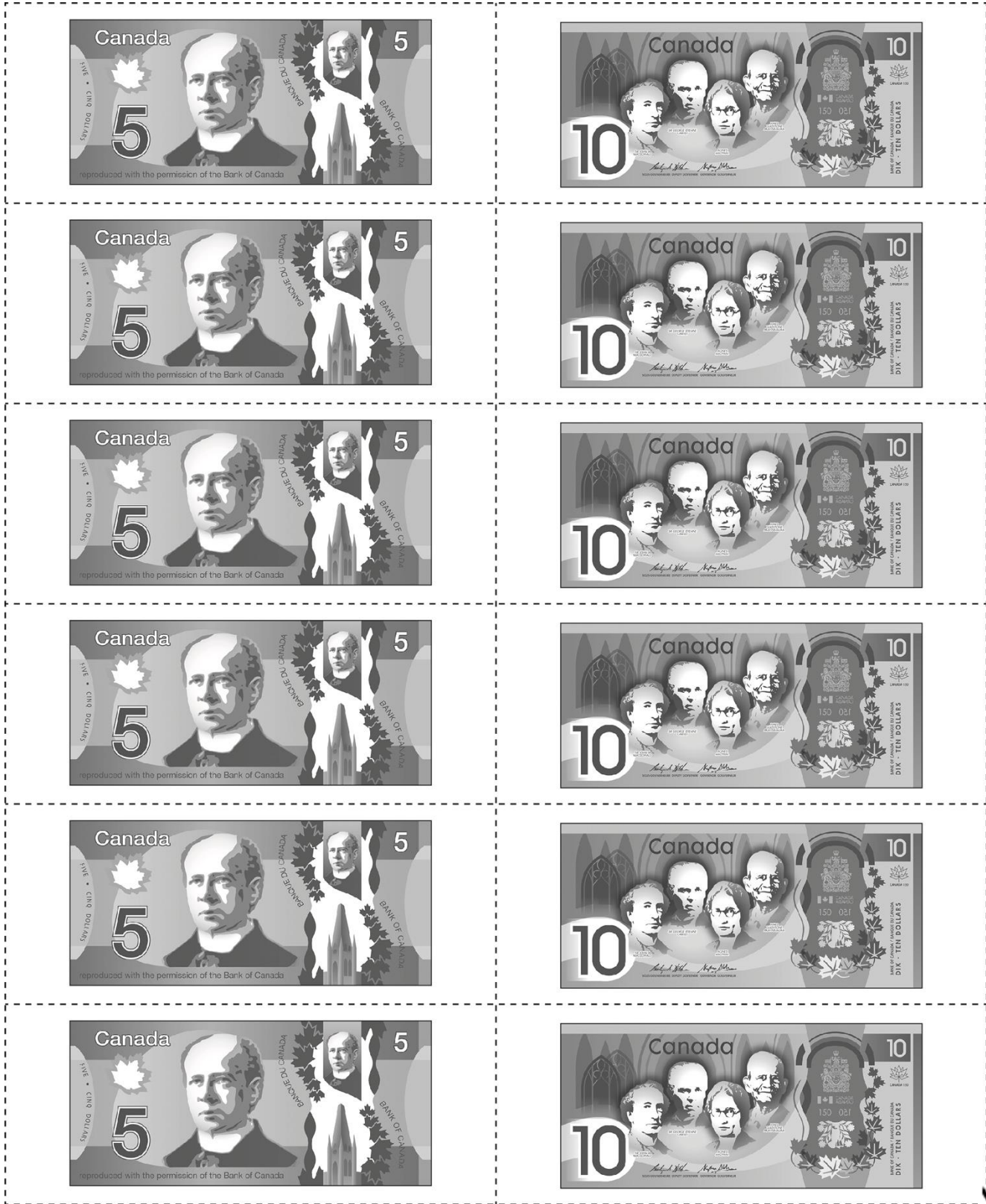|			
number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 **N3.1** solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials (e.g., base ten materials, counters), student-generated algorithms, and standard algorithms **N3.2** add and subtract money amounts to 100¢, using a variety of tools (e.g., concrete materials, drawings) and strategies (e.g., counting on, estimating, representing using symbols). **P2.1** identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart			**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.**
			Developing Conceptual Meaning of Addition and Subtraction - Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) - Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Ideas Numbers to 100 represent quantities that can be decomposed into 10s and 1s. Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value. **Cross Strand:** Patterns and Relations			
N1 Number concepts to 100 Counting • **N1** skip-counting by 2, 5, and 10: – **N1.1a** using different starting points – **N1.1b** increasing and decreasing (forward and backward) • **N1.2** Quantities to 100 can be arranged and recognized – **N1.2a** comparing and ordering numbers to 100 **N3 Addition and subtraction to 20** • **N3.1** adding and subtracting numbers to 20 **N4 Addition and subtraction to 100** • **N4.1** decomposing numbers to 100 • **N4.2** estimating sums and differences to 100 • **N4.6** using addition and subtraction in real-life	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (N1.1, N1.2a, N4.2, N5.1) 44: Earning Money (N1.1, N4.1, N4.6, N5.1, N5.2, N5.3) 45: Spending Money (N3.1, N4.1, N5.2, N5.3) 46: Saving Regularly (N1.1, N1.1a, N1.2a, N3.1, N4.6, N5.1, N5.2, N5.3) 47: Financial Literacy Consolidation (N1.1, N3.1, N4.1, N5.2, N5.3) **On Grade: Math Every Day Card 9:** Collections of Coins (N1.1, N5.1) Showing Money in Different Ways (N4.1, N5.1)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

British Columbia/Yukon Territories (continued)

contexts and problem-based situations **N5 Financial literacy — coin combinations to 100 cents, and spending and saving** • **N5.1** counting simple mixed combinations of coins to 100 cents • **N5.2** introduction to the concepts of spending and saving, integrating the concept of wants and needs • **N5.3** role-playing financial transactions (e.g., using bills and coins)			**Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) - Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Patterns):** Use patterns to describe the world and solve problems.			
N1 Say the number sequence from 0 to 100 by: • **N1a** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • **N1b** 10s using starting points from 1 to 9 **N4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **N5** Compare and order numbers up to 100. **N6** Estimate quantities to 100 using referents. **N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (N1a, N4, N5, N6, N9a, PR2) 44: Earning Money (N1a, N4, N9a, PR2) 45: Spending Money 46: Saving Regularly (N1a, N5, N9a, PR2) 47: Financial Literacy Consolidation **On Grade: Math Every Day Card 9:** Collections of Coins (N1a, N1b, PR2) Showing Money in Different Ways (N4)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.**
			Applying the Principles of Counting - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Numbers are related in many ways.
			Comparing and Ordering Quantities (Multitude or Magnitude) - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2)
			Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.
			Developing Conceptual Meaning of Addition and Subtraction - Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

New Brunswick/Prince Edward Island/Newfoundland and Labrador (continued)

corresponding subtraction by: • **N9a** using personal strategies for adding and subtracting with and without the support of manipulatives **PR2** Demonstrate an understanding of increasing patterns by using manipulatives, diagrams, sounds and actions (numbers to 100)			**Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) **-** Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand:** Patterns and Relations (Patterns) **General Outcome** Use patterns to describe the world and solve problems.			
2.N.1 Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s using starting points from 1 to 9 • 2s starting from 1. **2.N.4** Represent and describe numbers to 100, concretely, pictorially, and symbolically. **2.N.6** Estimate quantities to 100 using referents. **2.N.9** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (2.N.1, 2.N.4, 2.N.6) 44: Earning Money (2.N.4, 2.N.9) 45: Spending Money 46: Saving Regularly (2.N.9) 47: Financial Literacy Consolidation **On Grade: Math Every Day Card 9:** Collections of Coins (2.N.1) Showing Money in Different Ways (2.N.4)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction**

Curriculum Correlation
Number Cluster 9: Financial Literacy

Manitoba (continued)

support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum • explaining that the order in which numbers are subtracted may affect the difference			- Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) **-** Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to demonstrate number sense. **Cross Strand** **Patterns and Relations (Patterns):** Students will be expected to use patterns to describe the world and solve problems.			
N01 Students will be expected to say the number sequence by • **N01b** 2s, forward and backward, starting from any point to 100 • **N01c** 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 • **N01d** 10s, starting from any point, to 100 **N04** Students will be expected to represent and partition numbers to 100. **N05** Students will be expected to compare and order numbers up to 100. **N06** Students will be expected to estimate quantities to 100 by using referents. **N09** Students will be expected to	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (N01b, N01c, N01d, N04, N05, N06, N09a, PR02) 44: Earning Money (N01b, N01c, N01d, N04, N09a, PR02) 45: Spending Money 46: Saving Regularly (N01b, N01c, N01d, N05, N09a, PR02) 47: Financial Literacy Consolidation **On Grade: Math Every Day Card 9:** Collections of Coins (N01b, N01c, N01d, PR02) Showing Money in Different Ways (N04)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47) **Developing Fluency of Addition and Subtraction Computation**

Curriculum Correlation
Number Cluster 9: Financial Literacy

Nova Scotia (continued)

demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by • **N09a** using personal strategies for adding and subtracting with and without the support of manipulatives **PR02** Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, and creating numerical patterns (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds, and actions.			- Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) **-** Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Alberta/Northwest Territories/Nunavut

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Develop number sense **Cross Strand** **Patterns and Relations (Patterns):** Use patterns to describe the world and to solve problems.			
Number **1.** Say the number sequence 0 to 100 by: • **1a.** 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • **1b.** 10s, using starting points from 1 to 9 **4.** Represent and describe numbers to 100, concretely, pictorially and symbolically. **5.** Compare and order numbers up to 100. **6.** Estimate quantities to 100, using referents. **9.** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (N1a, N4, N5, N6,N9a, PR2) 44: Earning Money (N1a, N4, N9a, PR2) 45: Spending Money 46: Saving Regularly (N1a, N5, N9a, PR2) 47: Financial Literacy Consolidation **On Grade: Math Every Day Card 9:** Collections of Coins (N1a, N1b, PR2) Showing Money in Different Ways (N4)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Alberta/Northwest Territories/Nunavut (continued)

and the corresponding subtraction by: • **9a.** using personal strategies for adding and subtracting with and without the support of manipulatives **Patterns and Relations** **2.** Demonstrate an understanding of increasing patterns by describing, reproducing, extending, creating numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions.			**Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) **-** Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour **Cross Strand:** Patterns and Relations			
N2.1 Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • **N2.1a representing (including place value)** • N2.1b describing • **N2.1c skip counting** • N2.1d differentiating between odd and even numbers • **N2.1e estimating with referents** • **N2.1f comparing two numbers** • N2.1g ordering three or more numbers **N2.2** Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the	**Below Grade: Intervention** 17: Counting Coins 18: Wants and Needs **On Grade: Teacher Cards** 43: Estimating Money (N2.1a, N2.1c, N2.1e, N2.1f, N2.2d) 44: Earning Money (N2.1a, N2.1c, N2.2d) 45: Spending Money 46: Saving Regularly (N2.1c, N2.1f, N2.2d) 47: Financial Literacy Consolidation **On Grade: Math Every Day Card 9:** Collections of Coins (N2.1c) Showing Money in Different Ways (N2.1a)	**Below Grade:** • Buy 1—Get 1 (Activities 45, 47) **On Grade:** • The Money Jar (Activities 43, 45, 47)	**Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 43, 44, 46, 47; MED 9:1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities (Multitude or Magnitude)** - Compares and orders quantities and written numbers using benchmarks. (Activities 43, 46) **Estimating Quantities and Numbers** - Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10). (Activities 43) **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activity 45) - Composes two-digit numbers from parts (e.g., 14 and 14 is 28), and decomposes two-digit numbers into parts (e.g., 28 is 20 and 8). (Activities 43, 44; MED 9:2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 45, 47)

Curriculum Correlation
Number Cluster 9: Financial Literacy

Saskatchewan (continued)

corresponding subtraction by: • **N2.2d using personal strategies for adding and subtracting with and without the support of manipulatives**			**Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 45, 46, 47)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size) **-** Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 43, 44; MED 9:1) **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 43, 44, 46, 47; MED 9:1)
			Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.
			Using Symbols, Unknowns, and Variables to Represent Mathematical Relations - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 45, 47)

Mathology 2
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Name_____ Date _____

Money Cutouts

Name_____ Date _____

Money Cutouts

Name_____ Date _____

Savings Jar	Estimate	Actual Value
1		
2		
3		

Referent Jars

50¢   50¢

Master 122: Activity 44 Assessment
Estimating Money

Estimating Money Amounts Behaviours/Strategies

1. Student guesses instead of using relevant benchmarks to estimate quantities.	2. Student counts instead of using relevant benchmarks to estimate quantities.	3. Student uses relevant benchmarks to estimate quantities, but estimates are unreasonable.	4. Student successfully uses relevant benchmarks to estimate quantities and makes reasonable estimates.
"10 cents"	"10, 20, 30, …, 90, 100, 120 cents"	"There are more than 5 dimes, so 60 cents."	"About 100 cents."

Observations/Documentation

Counting and Comparing Money Amounts Behaviours/Strategies

1. Student places matching coins, but is unable to skip-count to find the value of the coins (unable to compose money amounts from parts).	2. Student successfully composes money amounts from parts, but struggles to compare and order quantities.	3. Student successfully composes money amounts from parts and compares and orders quantities, but does not realize that the number of coins does not affect the value.	4. Student successfully composes money amounts from parts and compares and orders quantities.

Observations/Documentation

Name_____ Date _____

Hire Me

_____**'s Services**

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Name_____ Date _____

Hire Me (for Accommodations)

_____'s Services

Sort Socks 20¢	Shovel Snow 50¢
Take Out Garbage 35¢	**Vacuum 80¢**

Master 124: Activity 45 Assessment
Earning Money

Decomposing Money Amounts Behaviours/Strategies

1. Student chooses jobs, but is unable to decompose money amounts into parts as he or she does not know the value of coins.	2. Student chooses jobs, but is unable to decompose money amounts into parts and chooses coins randomly.	3. Student decomposes money amounts into parts, but always uses one denomination of coin.	4. Student successfully decomposes money amounts into parts.
	"70 cents. I will use these coins."	"25 cents"	

Observations/Documentation

Counting Money Amounts Behaviours/Strategies

1. Student takes money from partner, but is unable to skip-count to find the value of the coins (unable to compose money amounts from parts).	2. Student composes money amounts from parts, but struggles when coins are of mixed denominations.	3. Student composes money amounts from parts and skip-counts to count coins of different denominations.	4. Student successfully and flexibly composes money amounts from parts.
	"5, 10, 15, 20. I count 20 cents."	"25, 35, 45, 50. I count 50 cents."	"25, 50. I count 50 cents."

Observations/Documentation

Master 125 **Used Sports Equipment Store**

Baseball Bat $6	**Lacrosse Stick $14**
•$6	•$14
Soccer Ball $3	**Skates $16**
•$3	•$16
Hockey Stick $7	**Bike $19**
•$7	•$19

Name_____ Date _____

Clothing Store

Pants $7	**Dress $8**
• $7	• $8
Hoodie $11	**Jacket $15**
• $11	• $15
T-shirt $4	**Socks $2**
• $4	• $2

Master 127: Activity 46 Assessment
Spending Money

Decomposing Quantities to 20 Behaviours/Strategies			
1. Student uses play money, but struggles to model $20 (unable to decompose quantities to 20). "I don't know what I need to make $20."	2. Student models savings, but chooses money randomly to pay for an item (unable to decompose quantities to 20). "$7. I will use these bills."	3. Student decompose quantities to 20, but cannot find the exact amount in savings needed to pay for an item. "I can't make exactly $4."	4. Student successfully and flexibly decomposes quantities to 20.
Observations/Documentation			

Subtracting Money Amounts Behaviours/Strategies			
1. Student uses money to pay for an item, but cannot subtract with quantities to 20 to determine how much is left in savings.	2. Student counts to determine how much is left in savings as he or she cannot subtract with quantities to 20.	3. Student subtracts with quantities to 20, but is unable to use symbols and equations to represent subtraction situations. "I can't write a number sentence."	4. Student subtracts with quantities to 20 and uses symbols and equations to represent subtraction situations. "20 − 7 = 13"
Observations/Documentation			

Master 128: Activity 47 Assessment
Money up to $200

Modelling Dollar Amounts to $200 Behaviours/Strategies

1. Student models amount in one way (using smaller denominations).	2. Student models amount in more than one way, but trade was not accurate.	3. Student models amount in more than one way and skip-counts to check.	4. Student successfully models amounts in different ways and finds fewest number of coins/bills needed.
"I used toonies to make $198 because I know how to skip-count by 2s: 2, 4, 6, …, 194, 196, 198."	"I traded 4 toonies for a $10 bill."	"50, 100, 150, 160, 170, 180, 190, 195, 196, 197, 198. The collection has a value of $198."	"To find the fewest number, I traded smaller coins/bills for larger coins/bills until I could make no more

Observations/Documentation

Name_____ Date _____

Calendar

Month _____   **My savings goal:** _____ ¢

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

How much was saved?   _____ ¢

Was the goal met? Circle the answer.   YES   NO

If the answer is NO, how much more money needs to be earned?   _____ ¢

Name_____ Date _____

Items to Save For

Hoola Hoop 50¢

50¢
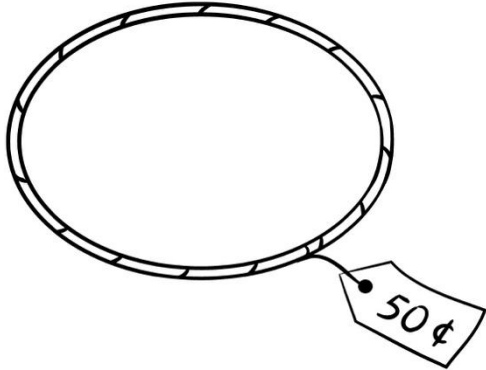
Board Game 35¢

35¢
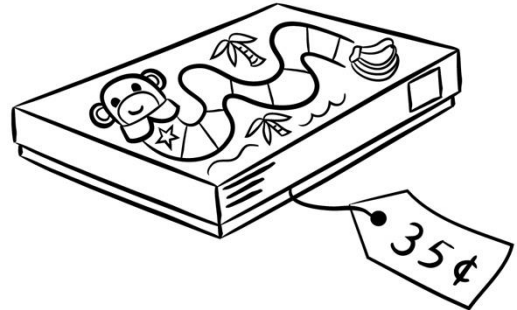
Package of Stickers 25¢

stickers

25¢
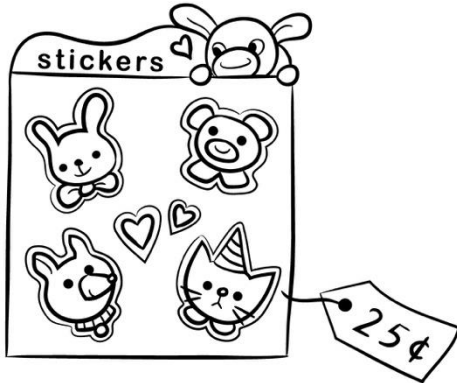
Toy Car 100¢

100¢

Small Puppet 20¢

20¢

Bouncy Balls 30¢

30¢

Name_____ Date _____
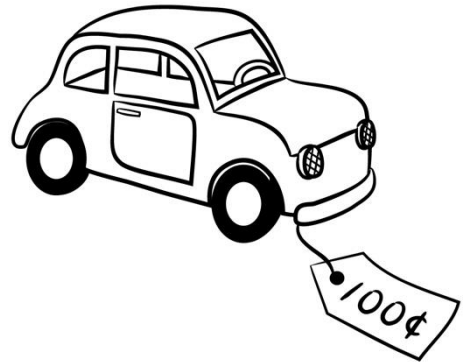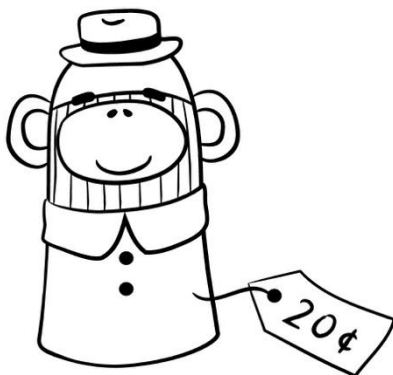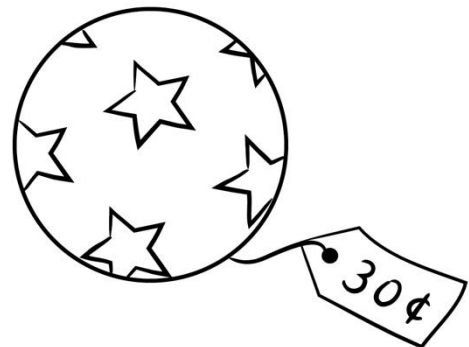
Jobs to Save Money

Water Plants 10¢

Take Out Garbage 10¢

Make Bed 5¢

Fill Water Bowl 5¢
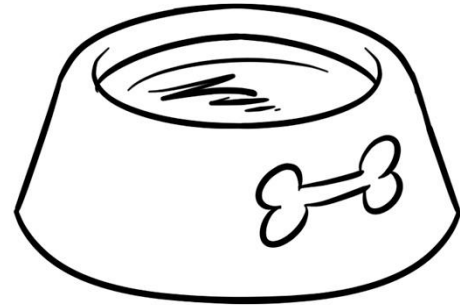
Set Table 25¢

Get Mail 25¢

Name_____ Date _____

More Jobs to Save Money
(Extension and Combined Grades Extension)

Sort Socks 30¢	**Put Away Groceries 40¢**
Dry Dishes 45¢	**Clean Your Room 55¢**
Wash Car 70¢	**Rake Leaves 80¢**

Master 132: Activity 48 Assessment
Saving Regularly

Making a Savings Plan Behaviours/Strategies			
1. Student chooses an item to save for, but cannot make a savings plan as he or she does not associate the cost of an item to a savings goal. "I want the small puppet that is 20¢. What is my goal?"	2. Student chooses a job, but struggles to make a savings plan, as job will not allow savings goal to be met. Item: Toy Car, 100¢ Job: Fill Water Bowl, 5¢	3. Student makes a savings plan, but circles random dates, places wrong coin on calendar, or does not place same amount on each date. S M T W T F S (calendar with 10¢ and 5¢ circled)	4. Student successfully makes a savings plan that will allow a savings goal to be reached. Item: Toy Car, 100¢ Job: Get Mail, 25¢

Observations/Documentation			

Adding, Subtracting, and Comparing Money Amounts Behaviours/Strategies			
1. Student gathers coins, but cannot add quantities to 100 to determine total savings. "How do I find how much was saved?"	2. Student adds quantities to 100, but struggles to compare and order quantities to decide if goal was met. "How do I know if the goal was met?"	3. Student compares and orders quantities, but struggles to subtract quantities, to find how much more needs to be saved. "I need more but I don't know how much more."	4. Student successfully adds, subtracts, and compares and orders quantities to 100. Item: 25¢ Savings: 20¢ Need to earn 5¢ more.

Observations/Documentation			

Money Cards

58¢	**95 cents**
200 cents	**175¢**
$75	**136 dollars**
189 dollars	**$200**

Master 133b **Money Cards (for Accommodations)**

51¢	**25 cents**
45 cents	**30¢**
$21	**37 dollars**
45 dollars	**$50**

Master 134: Activity 49 Assessment
Financial Literacy: Consolidation

Modelling Dollars and Cents to 200 Behaviours/Strategies

1. Student models amount in one way (using smaller denominations).	2. Student models amount in more than one way, but trade was not accurate.	3. Student models amount in more than one way and skip-counts to check.	4. Student successfully models amount in different ways and finds fewest number of coins and/or bills needed.
"I used nickels to make 95¢ because I know how to skip-count by 5s: 5, 10, 5, …, 85, 90, 95."	"I traded 4 toonies for a $10 bill."	"50, 100, 150, 160, 170, 180, 190, 195, 196, 197, 198. The collection has a value of $198."	"To find the fewest number, I traded smaller coins/bills for larger coins/bills until I could make no more trades."

Observations/Documentation

Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns			
P1.3 identify repeating, growing, and shrinking patterns found in real-life contexts **P1.6** create a repeating pattern by combining two attributes (e.g., colour and shape; colour and size) **P1.7** demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation)	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns 2: Extending and Predicting 3: Errors and Missing Elements 4: Combining Attributes (P1.6, P1.7) 5: Repeating Patterns Consolidation (P1.3, P1.6, P1.7) **On Grade: Math Every Day Card 1:** Show Another Way Repeating Patterns Around Us (P1.3)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea The regular change in increasing patterns can be identified and used to make generalizations.			
P1 Repeating and increasing patterns • **P1.1** exploring more complex repeating patterns (e.g., positional patterns, circular patterns) • **P1.2** identifying the core of repeating patterns (e.g., the part of the pattern that repeats over and over) • **P1.6** Online video and text: *Small Number Counts to 100*	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns (P1.1, P1.2) 2: Extending and Predicting (P1.1, P1.2) 3: Errors and Missing Elements (P1.1, P1.2) 4: Combining Attributes (P1.1, P1.2) 5: Repeating Patterns Consolidation (P1.1, P1.2, P1.6) **On Grade: Math Every Day Card 1:** Show Another Way (P1.1, P1.2) Repeating Patterns Around Us (P1.1, P1.2)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Use patterns to describe the world and solve problems.			
PR1 Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns (2PR1) 2: Extending and Predicting (2PR1) 3: Errors and Missing Elements (2PR1) 4: Combining Attributes (2PR1) 5: Repeating Patterns Consolidation (2PR1) **On Grade: Math Every Day Card 1:** Show Another Way (2PR1) Repeating Patterns Around Us (2PR1)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Use patterns to describe the world and solve problems.			
2.PR.1 Predict an element in a repeating pattern using a variety of strategies	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns (2.PR.1) 2: Extending and Predicting (2.PR.1) 3: Errors and Missing Elements (2.PR.1) 4: Combining Attributes (2.PR.1) 5: Repeating Patterns Consolidation (2.PR.1) **On Grade: Math Every Day Card 1:** Show Another Way (2.PR.1) Repeating Patterns Around Us (2.PR.1)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

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Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Students will be expected to use patterns to describe the world and solve problems.			
2PR01 Students will be expected to demonstrate an understanding of repeating patterns (three to five elements) by describing, extending, comparing, and creating patterns using manipulatives, diagrams, sounds, and actions.	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns (2PR01) 2: Extending and Predicting (2PR01) 3: Errors and Missing Elements (2PR01) 4: Combining Attributes (2PR01) 5: Repeating Patterns Consolidation (2PR01) **On Grade: Math Every Day Card 1:** Show Another Way (2PR01) Repeating Patterns Around Us (2PR01)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Use patterns to describe the world and to solve problems.			
1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns (PR1) 2: Extending and Predicting (PR1) 3: Errors and Missing Elements (PR1) 4: Combining Attributes (PR1) 5: Repeating Patterns Consolidation (PR1) **On Grade: Math Every Day Card 1:** Show Another Way (PR1) Repeating Patterns Around Us (PR1)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

Curriculum Correlation
Patterning and Algebra Cluster 1: Repeating Patterns

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour			
P2.1 Demonstrate understanding of repeating patterns (three to five elements) by: • **P2.1a** describing • **P2.1b** representing patterns in alternate modes • **P2.1c** extending • **P2.1d** comparing • **P2.1e** creating patterns using manipulatives, pictures, sounds, and actions	**Below Grade: Intervention** 1: Finding the Core 2: Representing Patterns **On Grade: Teacher Cards** 1: Exploring Patterns (P2.1a, P2.1b, P2.1c, P2.1e) 2: Extending and Predicting (P2.1a, P2.1b, P2.1c, P2.1d, P2.1e) 3: Errors and Missing Elements (P2.1a, P2.1c) 4: Combining Attributes (P2.1a, P2.1b, P2.1c, P2.1d, P2.1e) 5: Repeating Patterns Consolidation (P2.1a, P2.1c, P2.1e) **On Grade: Math Every Day Card 1:** Show Another Way (P2.1a, P2.1b, P2.1d) Repeating Patterns Around Us (P2.1a, P2.1b)	**Below Grade:** • Midnight and Snowfall (Activities 1, 2, 5) **On Grade:** • Pattern Quest (Activities 1, 2, 4, 5)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Reproducing, Extending, and Creating Patterns that Repeat** - Identifies the repeating unit (core) of a pattern. (Activities 1, 2, 3, 4, 5; MED 1: 1, 2) - Predicts missing element(s) and corrects errors in repeating patterns. (Activities 2, 3, 5) - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). (Activities 1, 2, 5) - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions). (Activities 1, 2, 4; MED 1: 1, 2) - Compares repeating patterns and describes how they are alike and different. (Activity 4; MED 1: 1) - Recognizes, extends, and creates repeating patterns based on two or more attributes (e.g., shape and orientation). (Activities 4, 5) - Identifies the repeating unit of patterns in multiple forms (e.g., circular, 2-D, 3-D). (Activity 2)

Name_____ Date _____

A B A C A | A B C D

A B C A | A B A C

A B C C B | A B B C A

Master 3: Activity 1 Assessment
Exploring Patterns

Using a Core to Create a Repeating Pattern Behaviours/Strategies

1. Student models the core and repeats only the last element as the repeating core. Core: Student's Pattern:	2. Student models the core, but places the elements in the wrong order when using copies of the core to create a repeating pattern. Core: Student's Pattern:	3. Student creates some repeating patterns based on copies of the core, but struggles when the last element in the core is the same as the first. Core: Student's Pattern:

Observations/Documentation

4. Student creates repeating patterns based on copies of the repeating unit (core), but struggles to represent the core with letters. "I don't know how to show it with letters."	5. Student creates repeating patterns based on copies of the repeating unit (core) and represents the core with letters, but struggles to use math language when describing patterns.	6. Student successfully creates repeating patterns based on copies of the repeating unit (core), represents the core with letters, and uses math language to describe patterns. Core: ABCDC

Observations/Documentation

Bracelet Cores

ABCB	**ABCC**
AABC	**ABCD**

✂

Master 4b   **Bracelet Cores
(for Accommodations)**

ABC

ABB

AAB

ABA

Name_____ Date _____

Bracelet Cores
(for Extension)

ABBCD	**AABCCD**
ABCBC	**ABCDCD**

✂

Name_____ Date _____

My Bracelet Plan

Name_____ Date _____
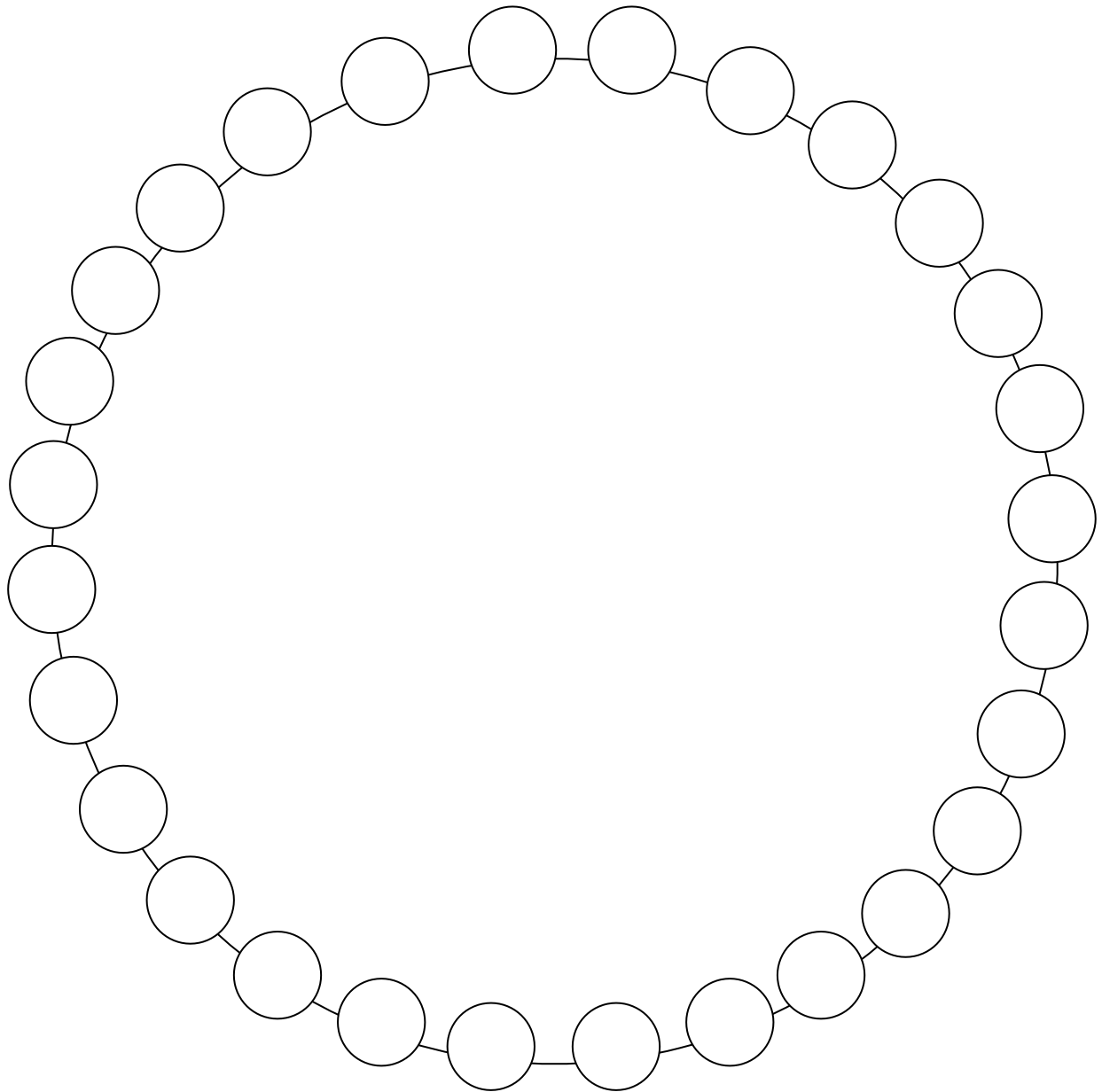
My Bracelet Plan
(for Accommodations)

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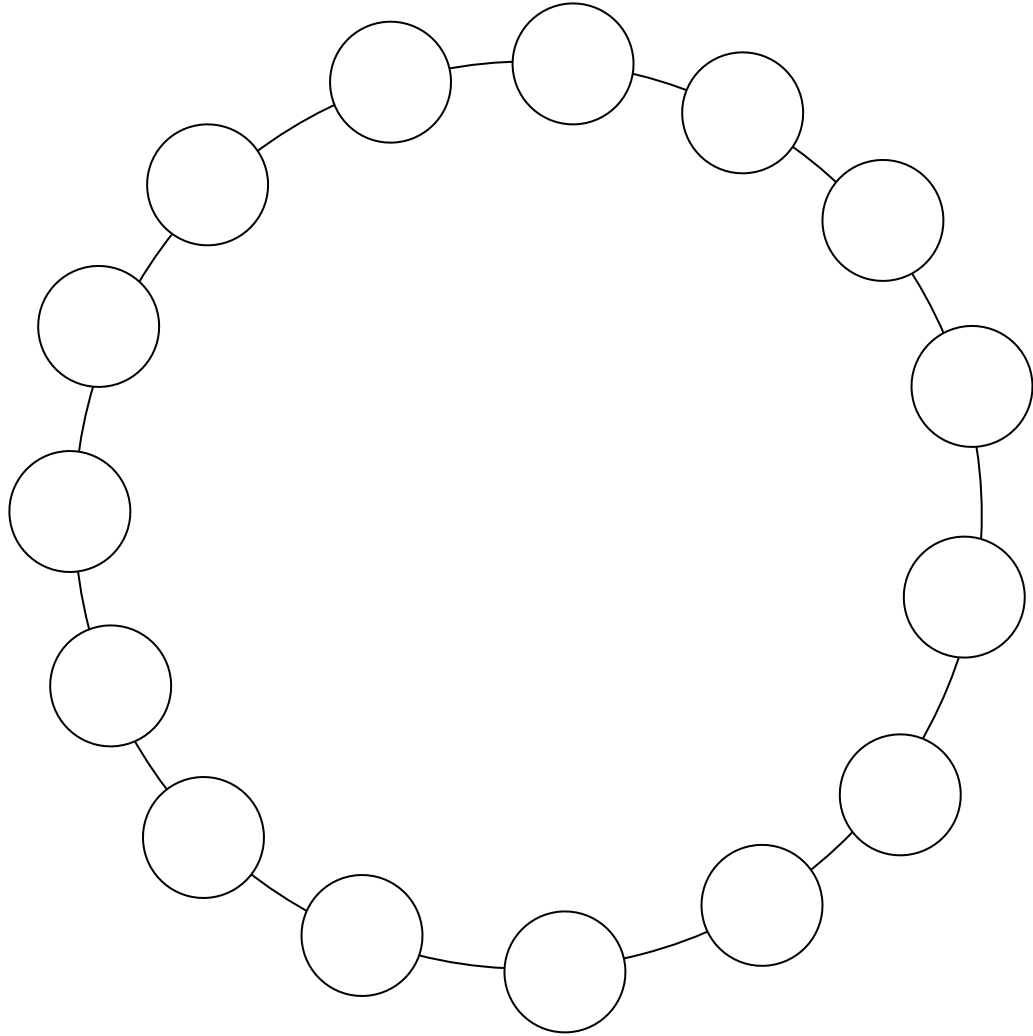
My Bracelet Plan
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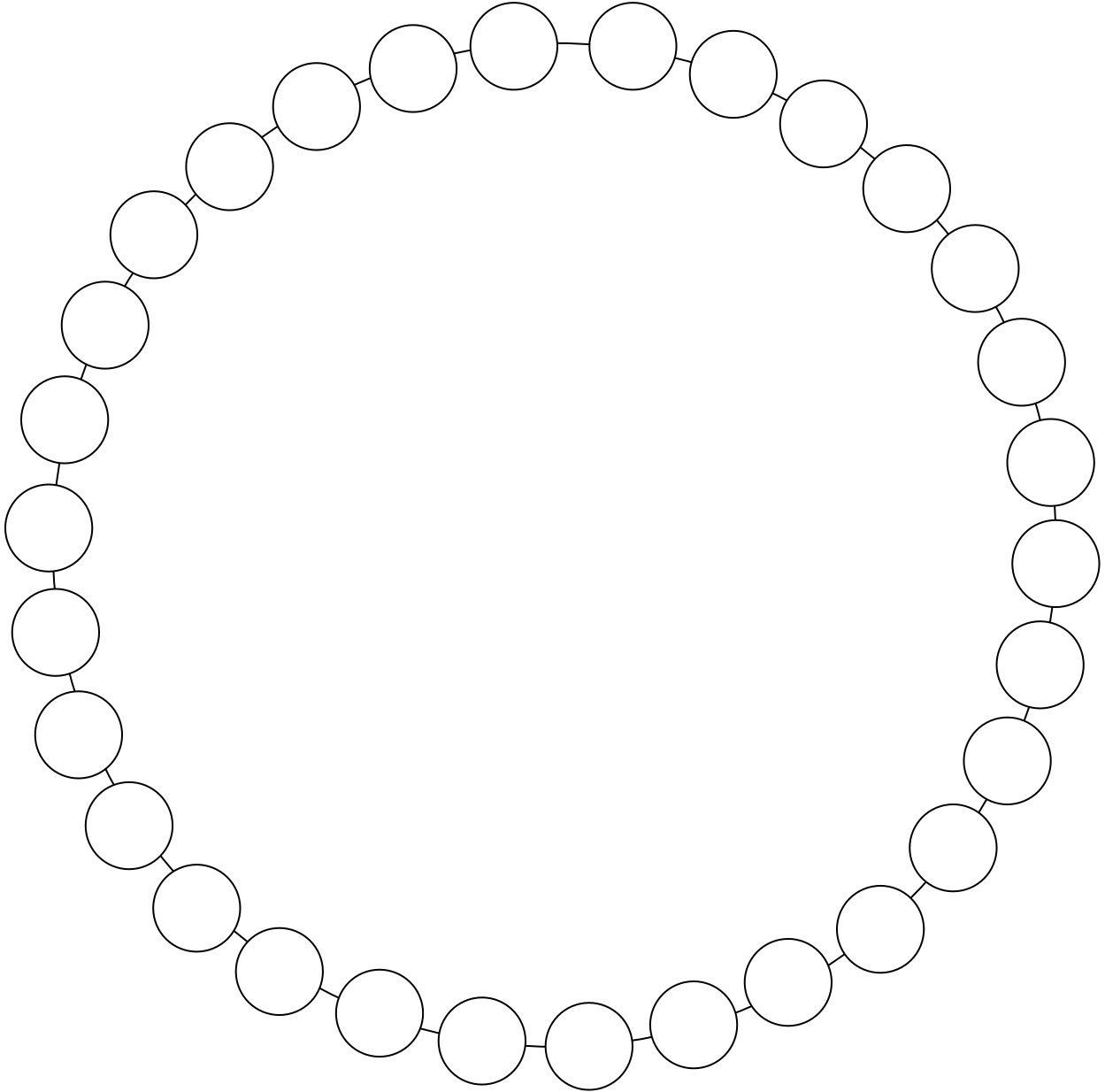
Master 6: Activity 2 Assessment
Extending and Predicting

Extending and Predicting Elements in Patterns Behaviours/Strategies

1. Student looks at the letter core, but has difficulty choosing beads to represent the core.	2. Student represents the core with beads, but struggles to use copies of the core to extend the pattern. Core: ABCB ⬤⬤⬤⬤ "Now what do I do?"	3. Student represents the core with beads, but struggles to predict an element in the pattern. Core: ABCB ⬤⬤⬤⬤ "I'm not sure what the 15th bead will be."

Observations/Documentation

4. Student correctly predicts an element in the core, but struggles to justify prediction. Core: ABCB ⬤⬤⬤⬤ "The 15th bead will be purple. I'm not sure why."	5. Student predicts an element in the core and justifies prediction, but does not realize that, because the pattern is circular, the pattern core can be viewed differently, depending on the starting point.	6. Student successfully represents the core with beads, predicts element, justifies thinking, and is comfortable with circular patterns.

Observations/Documentation

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Master 7: Activity 3 Assessment
Errors and Missing Elements

Predicting Missing Elements and Correcting Errors Behaviours/Strategies		
1. Student chooses a pattern, but struggles to identify the repeating unit (core) of the pattern. "I don't know what the core is."	2. Student identifies the repeating unit (core) of some patterns, but struggles when there is a missing element or error near the beginning of the pattern. "I can't find the core. The second cube is missing."	3. Student identifies the repeating unit (core) of a pattern, but struggles to find and correct the error. "I know the core, but I can't find the error."

Observations/Documentation		

4. Student identifies the repeating unit (core) of a pattern, but struggles to predict the missing element. "I know the core, but I don't know what's missing."	5. Student successfully identifies missing element(s) and corrects errors in repeating patterns, but struggles to explain how an error or missing element was found.	6. Student successfully identifies the repeating unit (core) of a pattern, predicts missing element(s), and corrects errors in repeating patterns.

Observations/Documentation		

Name_____ Date _____

Our Core Cards

Core AB
Attributes changing:
size and shape

Core AB
Attributes changing:
colour and shape

Core ABA
Attributes changing:
size and shape

Core AAB
Attributes changing:
size and colour

Core ABC
Attributes changing:
colour and orientation

Core AAB
Attributes changing:
orientation and thickness

Core: ABBA
Attributes changing:
colour and thickness

Core: ABBC
Attributes changing:
number and orientation

Name_____ Date _____

Two Attributes Changing (Part 1)

What attributes change in each pattern? Circle the core.
What is the pattern in each attribute?

Attributes changing: _____

_____

Pattern in first attribute: _____

_____

Pattern in second attribute: _____

_____

Attributes changing: _____

_____

Pattern in first attribute: _____

_____

Pattern in second attribute: _____

_____

Name_____ Date _____
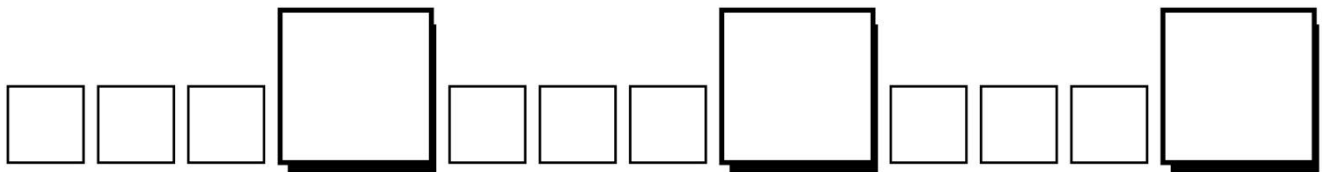
Two Attributes Changing (Part 2)

What attributes change in each pattern? Circle the core.
What is the pattern in each attribute?

Attributes changing: _____

_____

Pattern in first attribute: _____

_____

Pattern in second attribute: _____

_____

Attributes changing: _____

_____

Pattern in first attribute: _____

_____

Pattern in second attribute: _____

_____

Name_____ Date _____
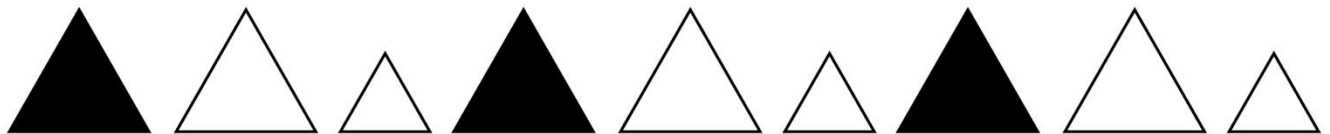
Two Attributes Changing
(for Accommodations)

Circle the core.

▲ △ ▲ △ ▲ △

Size pattern:

_____ _____ _____ _____ _____ _____

Colour pattern:

_____ _____ _____ _____ _____ _____

■ △ △ ■ △ △

Colour pattern:

_____ _____ _____ _____ _____ _____

Shape pattern:

_____ _____ _____ _____ _____ _____

Try this one on your own.

● ■ ● ■ ● ■

_____ :

_____ _____ _____ _____ _____ _____

_____ :

_____ _____ _____ _____ _____ _____

Master 10: Activity 4 Assessment
Combining Attributes

Working with Patterns Involving Two Attributes Behaviours/Strategies		
1. Student chooses a pattern, but struggles to recognize repeating pattern and is unable to identify the two attributes that are changing. "All the shapes are squares."	2. Student recognizes two attributes that are changing in a repeating pattern, but struggles to identify the core. "Core is small blue square and big blue square."	3. Student recognizes repeating patterns, but struggles to create a core based on two attributes. Card: ABA; size and shape changing Core:

Observations/Documentation		

| 4. Student recognizes repeating patterns and creates a core based on two attributes, but struggles to extend the pattern.

Card: ABA, size and shape changing
Core: | 5. Student recognizes, extends, and creates repeating patterns based on two attributes, but struggles to use math language when describing patterns. | 6. Student successfully recognizes, extends, and creates repeating patterns based on two attributes and uses math language when describing patterns.

Card: ABC; colour and orientation changing
Pattern: |
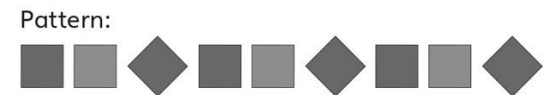
Observations/Documentation		

Action Cards

2 attributes: colour and shape Core: 3 elements	2 attributes: size and orientation Core: 4 elements
Make 2 different patterns.	Predict 14th element. Extend to check.
Build the core. Use it to make a pattern.	Make an error in your pattern. Have your partner find the error.
Remove a part from your pattern. Have your partner find what's missing.	Make a circular pattern.

Core Cards

ABA	**ABB**
AABC	**ABCB**
ABCA	**ABCC**
ABCCB	**ABCDB**

✂

Name_____ Date _____

Repeating Patterns Around Us

Wall Art

Crosswalk

Paving Stones

Name_____ Date _____
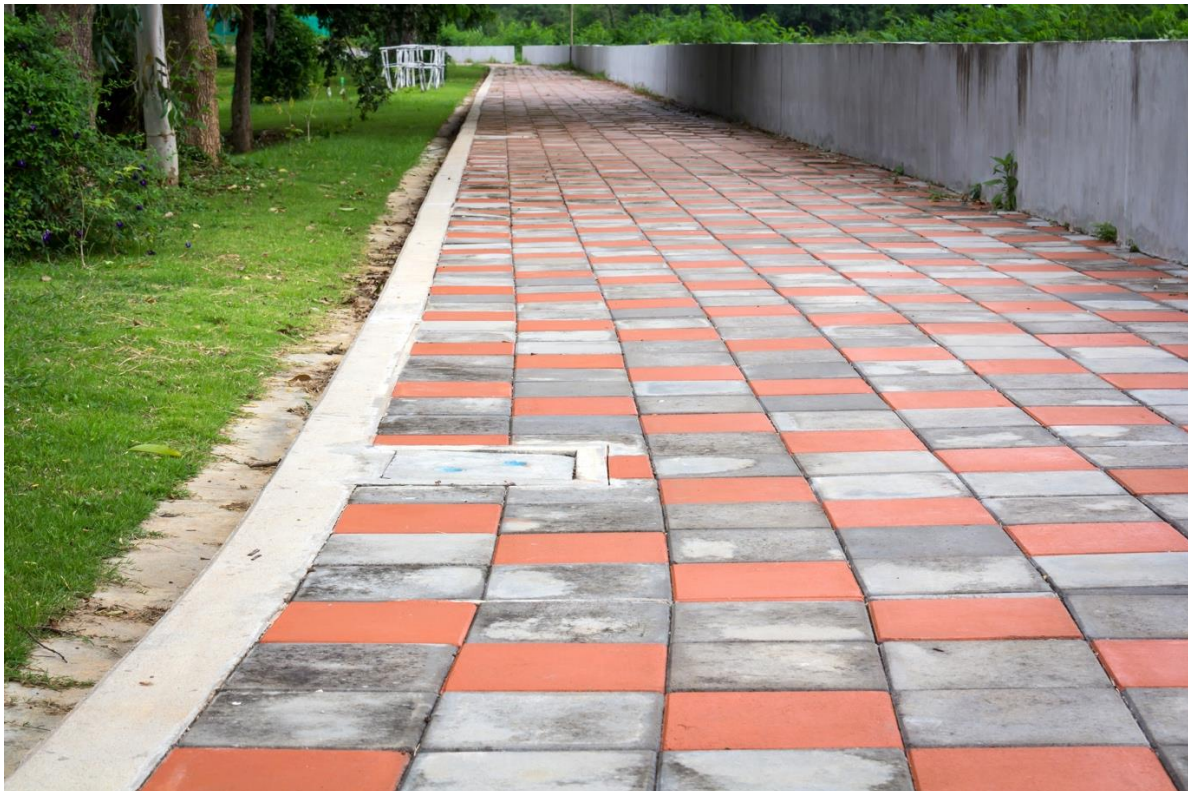
Garden Path

Master 14: Activity 5 Assessment
Repeating Patterns: Consolidation

Repeating Patterns Behaviours/Strategies		
1. Student chooses a core card, but struggles to represent it with materials. Core: AABC	2. Student represents the core with materials, but struggles to use copies of the core to extend/create the pattern. Core: ABCB	3. Student represents the core with materials, but struggles to predict an element in the pattern. "How do I know what the 14th element will be?"
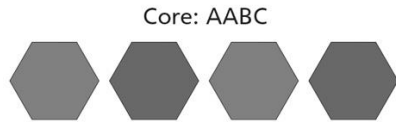
Observations/Documentation

4. Student identifies the repeating unit (core) of a pattern, but struggles to find errors or missing elements.	5. Student creates repeating patterns based on one attribute, but struggles to create a core based on two attributes. Card: 3 elements; colour and shape changing Core:	6. Student creates and extends repeating patterns based on one or two attributes, and predicts missing element(s) and corrects errors.

Observations/Documentation

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Note: Codes to curriculum are for cross-referencing purposes only.

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **P1 Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns **Cross Strand:** Number **N3 Operational Sense:** solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division.			
P1.1 identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart **P1.2** identify, describe, and create, through investigation, growing patterns and shrinking patterns involving addition and subtraction, with and without the use of calculators **P1.3** identify repeating, growing, and shrinking patterns found in real-life contexts	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (P1.2, P1.7) 7: Increasing Patterns 2 (P1.2, P1.4, P1.7) 8: Decreasing Patterns (P1.2, P1.4, P1.7) 9: Extending Patterns (P1.2, P1.7) 10: Reproducing Patterns (P1.4) 11: Creating Patterns (P1.2, P1.3, P1.5, P1.7) 12: Errors and Missing Terms (P1.2, P1.5, N3.1) 13: Solving Problems (P1.2, P1.3, P1.4, N3.1) 14: Increasing/Decreasing Patterns Consolidation (P1.2, P1.3, P1.4, P1.5, P1.7)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/ decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/ decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Fluency of Addition and Subtraction Computation**

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Ontario (continued)

P1.4 represent a given growing or shrinking pattern in a variety of ways **P1.5** create growing or shrinking patterns **P1.7** demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation). **N3.1** solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies	**On Grade: Math Every Day** **Card 2A:** How Many Can We Make? (P1.1, P1.2, P1.5, P1.7) Error Hunt (P1.2, P1.7) **Card 2B:** Making Increasing Patterns (P1.2, P1.7) Making Decreasing Patterns (P1.2, P1.7)		- Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

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Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Note: Codes to curriculum are for cross-referencing purposes only.

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea The regular change in increasing patterns can be identified and used to make generalizations. **Cross Strand:** Number Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value.			
P1 Repeating and increasing patterns • **P1.3** increasing patterns using manipulatives, sounds, actions, and numbers (0 to 100) • **P1.4** Métis finger weaving • **P1.5** First Peoples head/armband patterning **N3 Addition and subtraction facts to 20** • **N3.1** adding and subtracting numbers to 20	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (P1.3, N3.1) 7: Increasing Patterns 2 (P1.3, N3.1) 8: Decreasing Patterns (not required by your curriculum) 9: Extending Patterns (P1.3, N3.1) 10: Reproducing Patterns (P1.3, N3.1) 11: Creating Patterns (P1.3, N3.1) 12: Errors and Missing Terms (P1.3, N3.1) 13: Solving Problems (P1.3, P1.4, P1.5, N3.1) 14: Increasing/Decreasing Patterns Consolidation (P1.3, N3.1)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

British Columbia/Yukon Territories (continued)

	On Grade: Math Every Day		**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.**
	Card 2A: How Many Can We Make? (P1.3, N3.1) Error Hunt (P1.3, N3.1) **Card 2B:** Making Increasing Patterns (P1.3, N3.1) Making Decreasing Patterns (not required by your curriculum)		**Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Use patterns to describe the world and solve problems. **Cross Strand** **Number:** Develop number sense.			
PR2 Demonstrate an understanding of increasing patterns by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions **N10** Apply mental mathematics strategies to determine basic addition facts to 18 and related subtraction facts	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (PR2, N10) 7: Increasing Patterns 2 (PR2, N10) 8: Decreasing Patterns (not required by your curriculum) 9: Extending Patterns (PR2, N10) 10: Reproducing Patterns (PR2, N10) 11: Creating Patterns (PR2, N10) 12: Errors and Missing Terms (PR2, N10) 13: Solving Problems (PR2, N10) 14: Increasing/Decreasing Patterns Consolidation (PR2, N10) **On Grade: Math Every Day** **Card 2A:** How Many Can We Make? (PR2, N10) Error Hunt (PR2, N10) **Card 2B:** Making Increasing Patterns (PR2, N10) Making Decreasing Patterns (not required by your curriculum)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/ decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/ decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Use patterns to describe the world and solve problems. **Cross Strand** **Number:** Develop number sense.			
2.PR.2 Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds, and actions (numbers to 100)	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (2.PR.2) 7: Increasing Patterns 2 (2.PR.2) 8: Decreasing Patterns (not required by your curriculum) 9: Extending Patterns (2.PR.2) 10: Reproducing Patterns (2.PR.2) 11: Creating Patterns (2.PR.2) 12: Errors and Missing Terms (2.PR.2) 13: Solving Problems (2.PR.2) 14: Increasing/Decreasing Patterns Consolidation (2.PR.2) **On Grade: Math Every Day Card 2A:** How Many Can We Make? (2.PR.2) Error Hunt (2.PR.2) **Card 2B:** Making Increasing Patterns (2.PR.2) Making Decreasing Patterns (not required by your curriculum)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Students will be expected to use patterns to describe the world and solve problems. **Cross Strand** **Number:** Students will be expected to develop number sense.			
PR02 Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, and creating numerical patterns (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds, and actions. **N10** Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (PR02, N10) 7: Increasing Patterns 2 (PR02, N10) 8: Decreasing Patterns (not required by your curriculum) 9: Extending Patterns (PR02, N10) 10: Reproducing Patterns (PR02, N10) 11: Creating Patterns (PR02, N10) 12: Errors and Missing Terms (PR02, N10) 13: Solving Problems (PR02, N10) 14: Increasing/Decreasing Patterns Consolidation (PR02, N10)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Nova Scotia (continued)

	On Grade: Math Every Day **Card 2A:** How Many Can We Make? (PR02, N10) Error Hunt (PR02, N10) **Card 2B:** Making Increasing Patterns (PR02, N10) Making Decreasing Patterns (not required by your curriculum)		

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Use patterns to describe the world and to solve problems. **Cross Strand** **Number:** Develop number sense.			
Patterns and Relations **2.** Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions. **Number** **10.** Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18.	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (PR2, N10) 7: Increasing Patterns 2 (PR2, N10) 8: Decreasing Patterns (not required by your curriculum) 9: Extending Patterns (PR2, N10) 10: Reproducing Patterns (PR2, N10) 11: Creating Patterns (PR2, N10) 12: Errors and Missing Terms (PR2, N10) 13: Solving Problems (PR2, N10) 14: Increasing/Decreasing Patterns Consolidation (PR2, N10) **On Grade: Math Every Day** **Card 2A:** How Many Can We Make? (PR2, N10) Error Hunt (PR2, N10) **Card 2B:** Making Increasing Patterns (PR2, N10) Making Decreasing Patterns (not required by your curriculum)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour **Cross Strand:** Number			
Patterns and Relations **P2.2** Demonstrate understanding of increasing patterns by: • **P2.2a** describing • **P2.2b** reproducing • **P2.2c** extending • **P2.2d** creating patterns using manipulatives, pictures, sounds, and actions (numbers to 100). **Number** **N2.2** Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **N2.2a** representing strategies for adding and subtracting concretely, pictorially, and symbolically	**Below Grade: Intervention** 3: Skip-Counting 4: Repeated Addition and Subtraction **On Grade: Teacher Cards** 6: Increasing Patterns 1 (P2.2a, P2.2b, P2.2c, N2.2a, N2.2d) 7: Increasing Patterns 2 (P2.2a, P2.2b, P2.2c, N2.2a, N2.2d) 8: Decreasing Patterns (not required by your curriculum) 9: Extending Patterns (P2.2a, P2.2b, P2.2c, N2.2a, N2.2d) 10: Reproducing Patterns (P2.2a, P2.2b, P2.2c, N2.2a, N2.2d) 11: Creating Patterns (P2.2a, P2.2c, P2.2d, N2.2a, N2.2d) 12: Errors and Missing Terms (P2.2a, P2.2c, P2.2d, N2.2a, N2.2d) 13: Solving Problems (P2.2b, P2.2.c, N2.2a, N2.2d) 14: Increasing/Decreasing Patterns Consolidation (P2.2a, P2.2b, P2.2c, P2.2d, N2.2a, N2.2d)	**On Grade:** • The Best Surprise (Activities 6, 8, 9, 10, 11, 13, 14) • Pattern Quest (Activities 6, 10, 11, 14) **Above Grade:** • Namir's Marvellous Masterpieces (Activities 6, 8, 10, 11, 13, 14)	**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Representing and Generalizing Increasing/Decreasing Patterns** - Identifies and extends non-numeric increasing/decreasing patterns (e.g., jump-clap; jump-clap-clap; jump-clap-clap clap, etc.). (Activities 6, 7, 8, 9, 10, 13, 14) - Identifies and extends familiar number patterns and makes connections to addition (e.g., skip-counting by 2s, 5s, 10s). (Activities 7, 10, 13, 14) - Identifies, reproduces, and extends increasing/decreasing patterns concretely, pictorially, and numerically using repeated addition or subtraction. (Activities 7, 8, 9, 10, 13, 14) - Extends number patterns and finds missing elements (e.g., 1, 3, 5, __, 9, …). (Activities 12; MED 2A: 2) - Creates an increasing/decreasing pattern (concretely, pictorially, and/or numerically) and explains the pattern rule. (Activities 11, 14; MED 2A: 1; MED 2B: 1, 2)

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Curriculum Correlation
Patterning and Algebra Cluster 2: Increasing/Decreasing Patterns

Saskatchewan (continued)

• **N2.2d** using personal strategies for adding and subtracting with and without the support of manipulatives	**On Grade: Math Every Day Card 2A:** How Many Can We Make? (P2.2a, P2.2c, P2.2d, N2.2a, N2.2d) Error Hunt (P2.2a, N2.2a, N2.2d) **Card 2B:** Making Increasing Patterns (P2.2a, P2.2d, N2.2a, N2.2d) Making Decreasing Patterns (not required by your curriculum)		**Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 6, 7, 8, 9, 10, 11, 12, 13, 14, MED 2A: 1, 2; MED 2B: 1, 2)

Master 16 | # Increasing Patterns

Choose an increasing pattern below.
Careful! One pattern is not an increasing pattern. Can you find it?

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Master 17: Activity 6 Assessment
Increasing Patterns 1

Identifying and Reproducing Increasing Patterns Behaviours/Strategies

1. Student chooses a pattern, but cannot identify it as an increasing pattern.	2. Student identifies increasing patterns, but struggles to reproduce them concretely (is unable to build the pattern with cubes).	3. Student identifies increasing patterns and attempts to reproduce the patterns, but does not add the correct number of cubes each time or miscounts the cubes.

Observations/Documentation

4. Student identifies and reproduces increasing patterns concretely, but struggles to describe the patterns (cannot write pattern rules). "The pattern rule is: Add 2 cubes."	5. Student identifies and reproduces increasing patterns concretely and describes the patterns, but struggles to represent the patterns pictorially. "I can't draw a cube."	6. Student successfully identifies and reproduces increasing patterns concretely and pictorially and describes the patterns.

Observations/Documentation

More Increasing Patterns

Master 19: Activity 7 Assessment
Increasing Patterns 2

Identifying and Reproducing Increasing Patterns Numerically Behaviours/Strategies

1. Student identifies increasing patterns, but struggles to reproduce them concretely (is unable to build the patterns with tiles).	2. Student identifies and reproduces increasing patterns concretely, but miscounts when counting the number of tiles in each term. "6 tiles"	3. Student identifies and reproduces increasing patterns concretely and numerically, but struggles to describe the patterns (cannot write pattern rules). Add 4 tiles"

Observations/Documentation

4. Student identifies and reproduces increasing patterns concretely and numerically and describes the patterns, but struggles to predict the number of tiles in the next term. "How do I know how many tiles are in the next term?"	5. Student identifies increasing patterns numerically and describes the patterns, but does not see the relation to skip-counting or repeated addition. "5, 9, 13 I don't see how this is like adding or skip-counting."	6. Student successfully identifies and reproduces increasing patterns pictorially and numerically and describes the patterns. "5, 9, 13 Start at 5. Add 4 each time. This is like skip-counting by 4s from 5."

Observations/Documentation
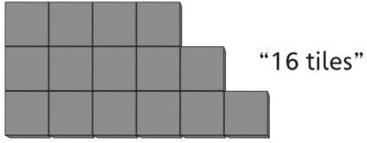
Master 20   **More Decreasing Patterns**

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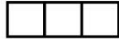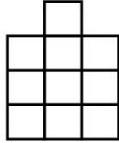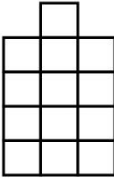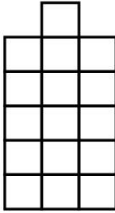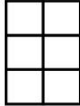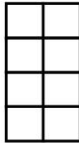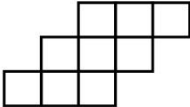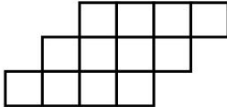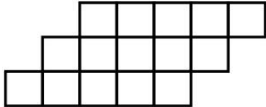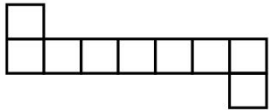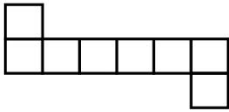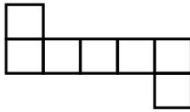
Master 21: Activity 8 Assessment
Decreasing Patterns

Identifying and Reproducing Decreasing Patterns Behaviours/Strategies

1. Student identifies decreasing patterns, but struggles to reproduce them concretely (is unable to build the patterns with tiles).	2. Student identifies and reproduces decreasing patterns concretely, but miscounts when counting the number of tiles in each term. "16 tiles"	3. Student identifies and reproduces decreasing patterns concretely and numerically, but struggles to describe the patterns (cannot write pattern rules). "Take away 3 tiles"

Observations/Documentation

4. Student identifies and reproduces decreasing patterns concretely and numerically and describes the patterns, but struggles to predict the number of tiles in the next term. "How do I know how many tiles are in the next term?"	5. Student identifies decreasing patterns numerically and describes the patterns, but does not see the relation to skip-counting backward or repeated subtraction. "10, 8, 6 I don't see how this is like subtracting or skip-counting."	6. Student successfully identifies and reproduces decreasing patterns concretely, pictorially, and numerically and describes the patterns. "10, 8, 6 Start at 10. Take away 2 each time. This is like skip-counting backward by 2s from 10."

Observations/Documentation

Master 22a **Increasing/Decreasing Pattern Cards**

Term 3   Term 4   Term 5

Term 3   Term 4   Term 5

Term 3   Term 4   Term 5

Term 3   Term 4   Term 5

Term 3   Term 4   Term 5

Master 22b **Increasing/Decreasing Pattern Cards**

9	12	15
Term 3	Term 4	Term 5
11	6	1
Term 3	Term 4	Term 5
23	18	13
Term 3	Term 4	Term 5
10	8	6
Term 3	Term 4	Term 5
10	13	16
Term 3	Term 4	Term 5

Master 23: Activity 9 Assessment
Extending Patterns

Reproducing and Extending Increasing/Decreasing Patterns Behaviours/Strategies

1. Student reproduces increasing/decreasing patterns, but is unable to extend patterns and adds tiles randomly.	2. Student reproduces increasing/decreasing patterns, but struggles to extend them and does not add/subtract the same amount each time.	3. Student reproduces increasing/decreasing patterns and attempts to extend them by adding/subtracting the same amount each time, but the amount added/subtracted is incorrect.
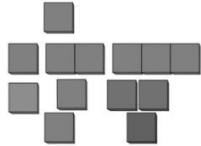
Observations/Documentation

4. Student extends increasing/decreasing patterns by adding/subtracting the same amount each time, but shape of patterns is not maintained.	5. Student reproduces and extends increasing/decreasing patterns, but is unable to write the pattern rule.	6. Student successfully reproduces and extends increasing/decreasing patterns and explains the rules.

Observations/Documentation

Master 24: Activity 10 Assessment
Reproducing Patterns

Reproducing Increasing Patterns in Different Ways Behaviours/Strategies		
1. Student chooses an increasing pattern, but struggles to reproduce it in different ways and randomly performs actions (gives no thought to number of actions). Pattern: 1, 3, 5, 7 "Clap-clap-clap-clap-clap-clap-clap"	2. Student reproduces the same increasing pattern in some ways, but is unable to represent the pattern with numbers or write the pattern rule.	3. Student reproduces the same increasing pattern in different ways, but does not have the correct number of items in some of the terms. Pattern: 1, 3, 5, 7
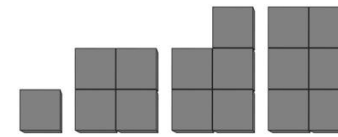
Observations/Documentation		

4. Student reproduces the same increasing pattern in different ways, matching the number of items in each term to the number pattern. 1, 3, 5, 7 "All the numbers match."	5. Student successfully reproduces the same increasing pattern in different ways, but cannot prove that all ways are the same. "I just know they all show the same pattern."	6. Student successfully reproduces the same increasing pattern in different ways.

Observations/Documentation		

Master 25: Activity 11 Assessment
Creating Patterns

Creating Increasing/Decreasing Patterns Behaviours/Strategies

1. Student chooses materials, but struggles to create an increasing/decreasing pattern and randomly groups items or creates a repeating pattern.	2. Student chooses materials and attempts to create an increasing/decreasing pattern, but does not add/subtract the same number of items each time.	3. Student creates an increasing/decreasing pattern, but items are not added/subtracted in the same way each time.
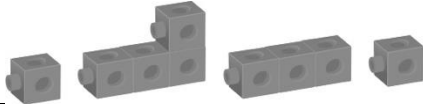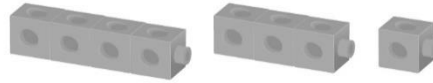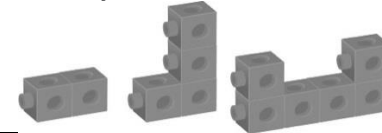
Observations/Documentation

4. Student creates an increasing/decreasing pattern, but struggles to write the pattern rule. "Subtract 2."	5. Student creates an increasing/decreasing pattern, but is not sure if partner's pattern rule is correct. "I'm not sure if it's right."	6. Student successfully identifies and creates an increasing/decreasing pattern and explains the pattern rule.

Observations/Documentation

Master 26   **What's Wrong?**

10, 8, ___, 4, 2

Master 27: Activity 12 Assessment
Errors and Missing Terms

Finding Errors and Missing Terms Behaviours/Strategies		
1. Student takes linking cubes, but struggles to create an increasing/decreasing pattern.	2. Student makes an increasing/decreasing pattern with missing terms or errors, but cannot identify the pattern rule of partner's pattern to predict missing term(s) and correct errors.	3. Student explains the rule, but has difficulty predicting missing term(s) in an increasing/decreasing pattern. "Start at 2. Add 1 each time." 3, 5, ?, 9, 11, … "Start at 3. Add 2 each time."

Observations/Documentation		

4. Student explains the rule, but has difficulty correcting errors in an increasing/decreasing pattern. "Start at 9. Subtract 2 each time." 18, 15, 12, 9, 6, … "Start at 18. Subtract 3 each time."	5. Student predicts missing term(s) and corrects errors in increasing/decreasing patterns, but struggles to explain how an error or missing term was found.	6. Student successfully predicts missing term(s) and corrects errors in increasing/decreasing patterns and justifies thinking.

Observations/Documentation		

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Name_____ Date _____

Beaded Belt
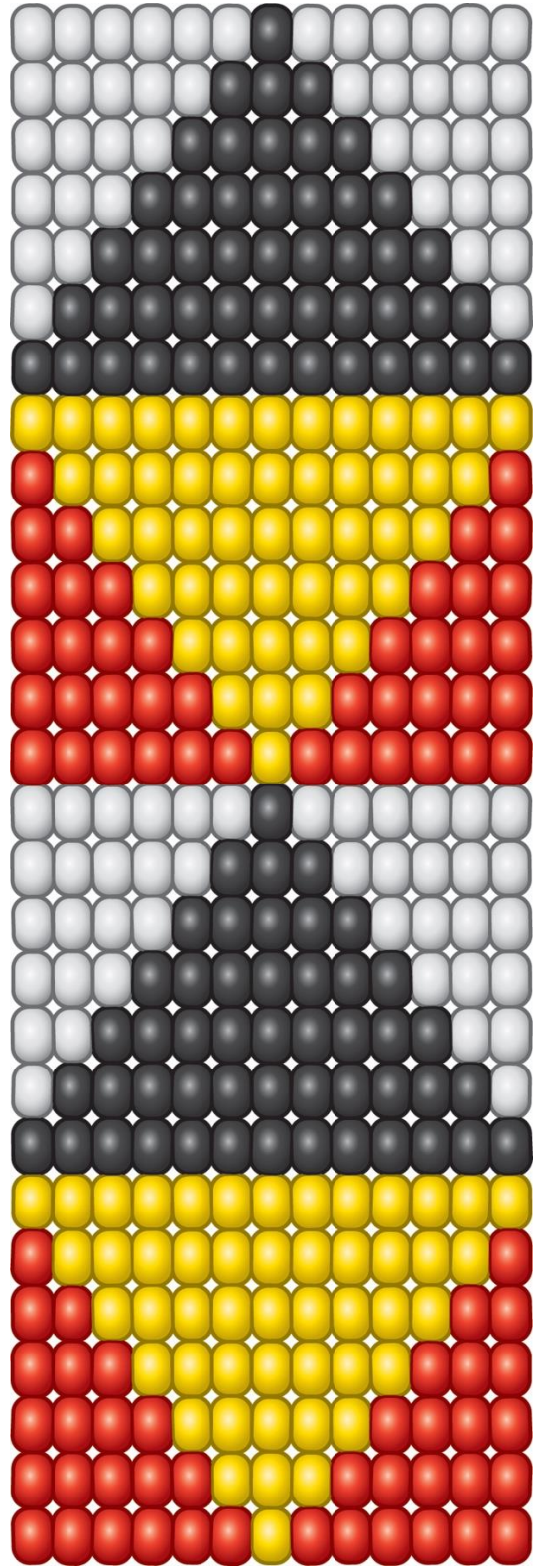
Master 29 **Beading Story: Smooth Beads**

By Amanda Norton and Jillian Laursen

I loved going to my Noohkoom's (grandmother's) house up north.
The smell of leather and the sight of cookie tins filled with beads would wake up my senses. Even as a young child, I remember running my fingertips over the tightly beaded leather pieces in my Noohkoom's home. How delicate and fine they were.

Her fingers would move so quickly as she created patterns of flowers in her mind. She would use two needles on the leather—stringing a needle with two and sometimes five beads at a time, and then using the second needle to tack them down.

Her patterns grew with every movement, and her hand would begin to move faster. Her hand would only leave the leather to stop and sip her warm mug of tea. When she was finished, we would sit back and look at the beautiful pieces. Our family, our friends, and people from all over the community admired Noohkoom's beadwork.

Photo taken by: Amanda Norton

Master 30: Activity 13 Assessment
Solving Problems

Solving Problems Involving Increasing Patterns Behaviours/Strategies		
1. Student reproduces an increasing pattern concretely, but is unable to identify and explain the pattern rule.	2. Student identifies and reproduces an increasing pattern, but guesses to solve the problem (gives no thought to pattern). "I guess 200!"	3. Student identifies and reproduces an increasing pattern, but struggles to use rule to make prediction. "I know the rule, but I don't know what to do."

Observations/Documentation

4. Student identifies and reproduces an increasing pattern and uses rule to make prediction, but struggles to extend the pattern to check.	5. Student identifies, reproduces, and extends an increasing pattern to solve problem, but does not use math language to explain thinking.	6. Student successfully identifies, reproduces, and extends an increasing pattern to solve problem and uses math language to explain thinking.

Observations/Documentation

Number String Cards

$$33 + 42 = 75$$
$$34 + 41 = 75$$
$$35 + 40 = 75$$
$$\_\_ + 39 = 75$$
$$37 + \_\_ = 75$$

$$90 + 10 = 100$$
$$80 + 20 = 100$$
$$70 + 30 = 100$$
$$60 + \_\_ = 100$$
$$\_\_ + 50 = 100$$

$$53 + 36 = 89$$
$$55 + 34 = 89$$
$$57 + \_\_ = 89$$
$$59 + 30 = 89$$
$$\_\_ + 28 = 89$$

$$98 - 23 = 75$$
$$97 - 22 = 75$$
$$\_\_ - 21 = 75$$
$$95 - 20 = 75$$
$$94 - \_\_ = 75$$

Number String Cards

68 – 25 = 43	81 – 21 = 60
69 – 26 = 43	79 – 19 = 60
70 – 27 = 43	___ – 17 = 60
___ – 28 = 43	75 – ___ = 60
72 – ___ = 43	73 – 13 = 60

Master 31c **Number String Cards** (Accommodations)

$12 + 13 = 25$

$11 + 14 = 25$

$10 + 15 = 25$

$9 + \_\_ = 25$

$\_\_ + 17 = 25$

$5 + 35 = 40$

$10 + 30 = 40$

$15 + 25 = 40$

$20 + \_\_ = 40$

$\_\_ + 15 = 40$

$21 + 29 = 50$

$23 + 27 = 50$

$25 + 25 = 50$

$\_\_ + 23 = 50$

$29 + \_\_ = 50$

$45 - 8 = 37$

$44 - 7 = 37$

$43 - 6 = 37$

$42 - \_\_ = 37$

$\_\_ - 4 = 37$

Master 31d **Number String Cards** (Accommodations)

$$37 - 12 = 25$$

$$38 - 13 = 25$$

$$\_\_ - 14 = 25$$

$$40 - 15 = 25$$

$$41 - \_\_ = 25$$

$$50 - 25 = 25$$

$$48 - 23 = 25$$

$$46 - 21 = 25$$

$$44 - \_\_ = 25$$

$$\_\_ - 17 = 25$$

Master 32: Activity 14 Assessment
Patterns in Number Relationships

Creating and Describing Number Patterns Behaviours/Strategies		
1. Student recognizes the number facts are related, but has difficulty describing the patterns in the numbers or modelling the facts on a number line. 21 + 29 = 50 22 + 28 = 50 23 + 27 = 50 "They're all really close to each other."	2. Student describes the patterns in addition, but struggles to describe the patterns in subtraction. 58 − 33 = 25 57 + 32 = 25 56 + 31 = 25 … "The difference is always 25."	3. Student describes patterns in addition and subtraction, but creates addition patterns with random facts that have the same sum. 4 + 23 = 27 12 + 15 = 27 26 + 1 = 27
Observations/Documentation		

4. Student uses number facts to create addition patterns that show number relationships, but has difficulty creating subtraction patterns. 14 + 9 = 23 29 – 18 = 11 13 + 10 = 23 13 – 2 = 11 12 + 11 = 23 … 15 – 4 = 11 …	5. Student creates and describes addition and subtraction patterns that show number relationships, but has difficulty finding missing parts. 29 – 18 = 11 ___ – 17 = 11 27 – 16 = 11 …	6. Student creates and describes addition and subtraction patterns that show number relationships and finds missing parts. "When both numbers being subtracted go up or down by the same amount, the difference stays the same."
Observations/Documentation		

Master 33: Activity 15 Assessment
Increasing/Decreasing Patterns: Consolidation

Increasing/Decreasing Patterns Behaviours/Strategies		
1. Student chooses materials, but struggles to create an increasing/decreasing pattern and randomly groups items together.	2. Student creates an increasing/decreasing pattern, but struggles to explain rule for partner's pattern.	3. Student creates an increasing/decreasing pattern, but struggles to examine partner's pattern for errors or missing terms.
Observations/Documentation		
4. Student identifies and creates an increasing/decreasing pattern, but struggles to extend the pattern by two terms.	5. Student identifies, creates, and extends an increasing/decreasing pattern, but struggles to reproduce the pattern another way.	6. Student successfully identifies, creates, reproduces, and extends increasing/decreasing patterns and explains the pattern rule.
Observations/Documentation		

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **P2 Expressions and Equality:** demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18. **Cross Strand:** Number **N1 Quantity Relationships:** read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢; **N2 Operational Sense:** solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division.			
P2.1 demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials P2.2 represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign P2.3 determine the missing number in equations involving addition and subtraction to 18, using a variety of tools and strategies	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets 16: Equal or Not Equal? (P2.2, N3.1) 17: Exploring Number Sentences (P2.1, P2.2, N3.1) 18: Exploring Properties (P2.4, P2.5, N3.1) 19: Missing Numbers (P2.3, N3.1) 20. Equality and Inequality Consolidation (P2.1, P2.2, P2.3, P2.4, N2.5, N3.1)	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., $2 + 4 = 5 + 1$). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1)

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Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Ontario (continued)

P2.4 identify, through investigation, and use the commutative property of addition to facilitate computation with whole numbers **P2.5** identify, through investigation, the properties of zero in addition and subtraction **N1.3** compose and decompose two-digit numbers in a variety of ways, using concrete materials **N3.1** solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies	**On Grade: Math Every Day Card 3A:** Equal or Not Equal? (P2.2, N N3.1) How Many Ways? (P2.1, P2.1, N1.3) **Card 3B:** Which One Doesn't Belong? (P2.2, N3.1) What's Missing? (P2.3, N3.1)		- Solves for an unknown value in a one-step addition and subtraction problem (e.g., $n + 5 = 15$). (Activity 19)
			Big Idea: Numbers are related in many ways.
			Decomposing Wholes into Parts and Composing Wholes from Parts - Composes and decomposes quantities to 20. (Activities 20, MED 3A: 2)
			Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.
			Developing Conceptual Meaning of Addition and Subtraction - Models add-to and take-from situations with quantities to 10. (Activities 17, 18, 20, MED 3A: 1) - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea The regular change in increasing patterns can be identified and used to make generalizations. **Cross Strand:** Number Development of computational fluency in addition and subtraction with numbers to 100 requires an understanding of place value.			
P2 Change in quantity using pictorial and symbolic representation • **P2.1** numerically describing a change in quantity (e.g., for 6 + n = 10, visualize the change in quantity by using ten-frames, hundred charts, etc.) **P3 symbol representation of equality and inequality** • **P3.1** Symbolic representation of equality and inequality **N3 addition and subtraction facts to 20** • **N3.1** adding and subtracting numbers to 20 **N4 Addition and subtraction to 100** • **N4.1** decomposing numbers to 100	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets 16: Equal or Not Equal? (P3.1, N3.1) 17: Exploring Number Sentences (P3.1, N3.1) 18: Exploring Properties 19: Missing Numbers (P2.1, N3.1) 20. Equality and Inequality Consolidation (P3.1, N3.1, N4.1) **On Grade: Math Every Day Card 3A:** Equal or Not Equal? (P3.1, N3.1) How Many Ways? (P3.1, N4.1) **Card 3B:** Which One Doesn't Belong? (P3.1, N3.1) What's Missing? (P2.1, N3.1, N4.7)	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1) - Solves for an unknown value in a one-step addition and subtraction problem (e.g., n + 5 = 15). (Activity 19)
			Big Idea: Numbers are related in many ways.

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Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

British Columbia/Yukon Territories (continued)

• **N4.7** whole-class number talks			**Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 20, MED 3A: 2)
			Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.
			Developing Conceptual Meaning of Addition and Subtraction - Models add-to and take-from situations with quantities to 10. (Activities 17, 18, 20, MED 3A: 1) - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

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Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Represent algebraic expressions in multiple ways. **Cross Strand** **Number:** Develop number sense.			
PR3 Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100). **PR4** Record equalities and inequalities symbolically using the equal symbol or the not equal symbol. **N8** Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **N9** Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction. **N10** Apply mental mathematics strategies to determine basic addition facts to 18 and related subtraction facts.	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets (PR3, PR4) 16: Equal or Not Equal? (2PR3, 2PR4, N10) 17: Exploring Number Sentences (2PR4, N10) 18: Exploring Properties (N8) 19: Missing Numbers 20: Equality and Inequality Consolidation (PR3, PR4, 2N8, N9, 2N10) **On Grade: Math Every Day Card 3A:** Equal or Not Equal? (PR3, PR4, N10) How Many Ways? (PR4) **Card 3B:** Which One Doesn't Belong? (PR4, N10) What's Missing?	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1) - Solves for an unknown value in a one-step addition and subtraction problem (e.g., n + 5 = 15). (Activity 19)

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

New Brunswick/Prince Edward Island/Newfoundland and Labrador (continued)

			Big Idea: Numbers are related in many ways.
			Decomposing Wholes into Parts and Composing Wholes from Parts - Composes and decomposes quantities to 20. (Activities 20, MED 3A: 2)
			Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.
			Developing Conceptual Meaning of Addition and Subtraction - Models add-to and take-from situations with quantities to 10. (Activities 17, 18, 20, MED 3A: 1) - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

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Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Represent algebraic expressions in multiple ways. **Cross Strand:** **Number:** Develop number sense.			
2.PR.3 Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100). **2.PR.4** Record equalities and inequalities symbolically using the equal symbol or the not-equal symbol.3 **2.N.8** Demonstrate and explain the effect of adding zero to or subtracting zero from any number. **2.N.9** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by • explaining that the order in which numbers are added does not affect the sum. • explaining that the order in which numbers are subtracted may affect the difference.	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets (2.PR.3, 2.PR.4) 16: Equal or Not Equal? (2.PR.3, 2.PR.4) 17: Exploring Number Sentences (2.PR.2) 18: Exploring Properties (2.N.8, 2.N.9) 19: Missing Numbers 20: Equality and Inequality Consolidation (2.PR.3, 2.PR.4) **On Grade: Math Every Day Card 3A:** Equal or Not Equal? (2.PR.3, 2.PR.4) How Many Ways? (2.PR.3, 2.PR.4) **Card 3B:** Which One Doesn't Belong? (2.PR.3, 2.PR.4) What's Missing?	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1) - Solves for an unknown value in a one-step addition and subtraction problem (e.g., n + 5 = 15). (Activity 19) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Students will be expected to represent algebraic expressions in multiple ways. **Cross Strand** **Number:** Students will be expected to develop number sense.			
PR03 Students will be expected to demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100). **PR04** Students will be expected to record equalities and inequalities symbolically, using the equal symbol or the not equal symbol. **N04** Students will be expected to represent and partition numbers to 100. **N08** Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number. **2N09** Students will be expected to demonstrate an understanding of	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets (PR03, PR04) 16: Equal or Not Equal? (PR03, PR04, N10) 17: Exploring Number Sentences (PR03, PR04, N10) 18: Exploring Properties (N08, N09c, N09d, N10) 19: Missing Numbers 20. Equality and Inequality Consolidation (PR03, PR04, N04, N08, N09c, N10) **On Grade: Math Every Day Card 3A:** Equal or Not Equal? (PR03, PR04, N10) How Many Ways? (PR03, PR04, 2\N04) **Card 3B:** Which One Doesn't Belong? (2\PR04, N10) What's Missing?	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., $2 + 4 = 5 + 1$). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1) - Solves for an unknown value in a one-step addition and subtraction problem (e.g., $n + 5 = 15$). (Activity 19)

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Nova Scotia (continued)

addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by **2N09c** explaining and demonstrating that the order in which numbers are added does not affect the sum **2N09d** explaining and demonstrating that the order in which numbers are subtracted matters when finding a difference **N10** Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.			**Big Idea: Numbers are related in many ways.** **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 20, MED 3A: 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Models add-to and take-from situations with quantities to 10. (Activities 17, 18, 20, MED 3A: 1) - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Patterns and Relations:** Represent algebraic expressions in multiple ways. **Cross Strand** **Number:** Develop number sense.			
Patterns and Relations **4.** Demonstrate and explain the meaning of equality and inequality, concretely and pictorially. **5.** Record equalities and inequalities symbolically, using the equal symbol or the not equal symbol. **Number** **4** Represent and describe numbers to 100, concretely, pictorially and symbolically. **8.** Demonstrate and explain the effect of adding zero to, or subtracting zero from, any number. **9.** Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by:	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets (PR4) 16: Equal or Not Equal? (PR4, PR5, N10) 17: Exploring Number Sentences (PR5, N10) 18: Exploring Properties (N8, N9c, N9e, N10) 19: Missing Numbers 20: Equality and Inequality Consolidation (PR4, PR5, N4, N8, N9c, N10) **On Grade: Math Every Day Card 3A:** Equal or Not Equal? (PR4, RP5, N10) How Many Ways? (PR5, N4) **Card 3B:** Which One Doesn't Belong? (PR5, N10) What's Missing?	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1) - Solves for an unknown value in a one-step addition and subtraction problem (e.g., n + 5 = 15). (Activity 19)

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Alberta/Northwest Territories/Nunavut (continued)

• **2N9c** using the commutative property of addition (the order in which numbers are added does not affect the sum) • **2N9d** explaining that the order in which numbers are subtracted may affect the difference. **10.** Apply mental mathematics strategies for basic addition facts and related subtraction facts to 18.			**Big Idea: Numbers are related in many ways.** **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 20, MED 3A: 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Models add-to and take-from situations with quantities to 10. (Activities 17, 18, 20, MED 3A: 1) - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

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Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour **Cross Strand:** Number			
Patterns and Relations **P2.3** Demonstrate understanding of equality and inequality concretely and pictorially (0 to 100) by: • **P2.3a** relating equality and inequality to balance • **P2.3b** comparing sets • **P2.3c** recording equalities with an equal sign • **P2.3d** recording inequalities with a not equal sign • **P2.3e** solving problems involving equality and inequality **Number** **N2.1** Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • **N2.1a** representing (including place value)	**Below Grade: Intervention** 5: Exploring 10 6: Balancing Sets **On Grade: Teacher Cards** 15: Equal and Unequal Sets (P2.3a, P2.3b) 16: Equal or Not Equal? (P2.3a, P2.3c, P2.3d, P2.3e, N2.2d) 17: Exploring Number Sentences (P2.3a, P2.3c, P2.3d, P2.3e, N2.2d) 18: Exploring Properties (P2.3b, P2.3c, N2.2d, N2.2e, N2.2f) 19: Missing Numbers (P2.3a) 20. Equality and Inequality Consolidation (P2.3a, P2.3c, P2.3d, N2.1a, N2.2d, N2.2e, N2.2f) **On Grade: Math Every Day Card 3A:** Equal or Not Equal? (P2.3a, P2.3c, P2.3d, N2.2d) How Many Ways? (P2.3c, P2.3d, N2.1a)	**Below Grade:** • Nutty and Wolfy (Activities 15, 16, 20) **On Grade:** • Kokum's Bannock (Activities 15, 16, 17, 18, 19, 20) **Above Grade:** • A Week of Challenges (Activities 17, 18, 19, 20)	**Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.** **Understanding Equality and Inequality, Building on Generalized Properties of Numbers and Operations** - Compares sets to determine more/less or equal. (Activity 15) - Creates a set that is more/less or equal to a given set. (Activity 15) - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as). (Activities 16, 17, 20, MED 3A: 1) - Records different expressions of the same quantity as equalities (e.g., 2 + 4 = 5 + 1). (Activities 20, MED 3A: 1, 2) - Explores properties of addition and subtraction (e.g., adding or subtracting 0, commutativity of addition). (Activities 18, 20) **Using Symbols, Unknowns, and Variables to Represent Mathematical Relations** - Uses the equal (=) symbol in equations and knows its meaning (i.e., equivalent; is the same as). (Activities 16, 17, 19, 20) - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions. (Activities 16, 17, 19, 20; MED 3A: 1) - Solves for an unknown value in a one-step addition and subtraction problem (e.g., $n + 5 = 15$). (Activity 19)

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

Saskatchewan (continued)

N2.2 Demonstrate understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • **N2.2a** representing strategies for adding and subtracting concretely, pictorially, and symbolically • **N2.2b** creating and solving problems involving addition and subtraction • **N2.2c** estimating • **N2.2d** using personal strategies for adding and subtracting with and without the support of manipulatives • **N2.2e** analyzing the effect of adding or subtracting zero • **N2.2f** analyzing the effect of the ordering of the quantities (addends, minuends, and subtrahends) in addition and subtraction statements.	**Card 3B:** Which One Doesn't Belong? (P2.3a, P2.3c, P2.3d, N2.2d) What's Missing? (P2.3a, P2.3e)		**Big Idea: Numbers are related in many ways.** **Decomposing Wholes into Parts and Composing Wholes from Parts** - Composes and decomposes quantities to 20. (Activities 20, MED 3A: 2) **Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.** **Developing Conceptual Meaning of Addition and Subtraction** - Models add-to and take-from situations with quantities to 10. (Activities 17, 18, 20, MED 3A: 1) - Uses symbols and equations to represent addition and subtraction situations. (Activities 16, 17, 18, 20; MED 3A: 1, 2; MED 3B: 1) **Developing Fluency of Addition and Subtraction Computation** - Fluently adds and subtracts with quantities to 20. (Activities 16, 17, 18, 19, 20; MED 3A: 1; MED 3B: 1, 2)

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Equal and Unequal Sets Recording Sheet

Equal Sets

Player A's Set	Player B's Set

Player A's Set	Player B's Set

Name_____ Date _____

Equal and Unequal Sets Recording Sheet

Unequal Sets

Player A's Set	**Player B's Set**

Player A's Set	**Player B's Set**

Master 36: Activity 16 Assessment
Equal and Unequal Sets

Creating Equal and Unequal Sets Behaviours/Strategies

1. Student guesses to create a set that is more/less than or equal to a given set.	2. Student creates a set that is equal to a given set, but thinks the sets must be identical (e.g., uses the same number of each colour of cube and/or arranges the cubes in the same way).	3. Student creates a set that is more/less than or equal to a given set, but struggles to use the pan balance to check.	4. Student successfully creates sets that are more/less than or equal to a given set.

Observations/Documentation

Identifying the Unequal Set Behaviours/Strategies

1. Student guesses and is unable to compare sets to identify the unequal set.	2. Student uses one-to-one matching to compare sets and identify the unequal set.	3. Student counts to compare sets and identify the unequal set, but is unable to explain thinking.	4. Student successfully compares sets to identify the unequal set and explains thinking.

Observations/Documentation

Master 37a   **Equal or Not Equal? Cards**

$5 + 2 \ \square \ 3 + 4$	$1 + 6 \ \square \ 2 + 4$
$9 + 3 \ \square \ 8 + 5$	$5 + 6 \ \square \ 7 + 4$
$8 + 4 \ \square \ 5 + 7$	$6 + 2 \ \square \ 4 + 4$
$6 + 8 \ \square \ 7 + 9$	$9 + 7 \ \square \ 8 + 8$

Master 37b

Equal or Not Equal? Cards
(for Accommodations)

$5 + 2 \square 7$

$7 \square 2 + 4$

$3 + 3 \square 5$

$6 \square 2 + 3$

$8 \square 4 + 4$

$1 + 7 \square 9$

$3 + 5 \square 8$

$9 \square 4 + 5$

Equal or Not Equal? Cards
(for Extension)

$5 + 2 + 1 \;\square\; 3 + 4$	$2 + 6 + 2 \;\square\; 9 + 1$
$9 + 3 + 4 \;\square\; 8 + 7$	$5 + 9 \;\square\; 7 + 4 + 3$
$8 + 4 + 5 \;\square\; 6 + 9$	$6 + 2 + 3 \;\square\; 4 + 8$
$6 + 8 \;\square\; 5 + 7 + 3$	$9 + 7 \;\square\; 8 + 6 + 2$

Name_____ Date _____

**Equal or Not Equal? Cards
(for Combined Grades Extension)**

$19 + 5 \,\square\, 18 + 4$

$15 + 4 \,\square\, 5 + 13$

$12 + 9 \,\square\, 18 + 3$

$5 + 17 \,\square\, 13 + 8$

$18 + 4 \,\square\, 15 + 7$

$6 + 16 \,\square\, 4 + 17$

$14 + 8 \,\square\, 3 + 19$

$17 + 7 \,\square\, 9 + 14$

Master 38: Activity 17 Assessment
Equal or Not Equal?

Identifying Equal and Not Equal Number Sentences Behaviours/Strategies

1. Student turns over a card, but struggles to model equality and inequality with cubes (miscounts) or only models one number on each side.	2. Student models each side of number sentence with cubes and compares expressions (cubes) using one-to-one matching.	3. Student models each side of number sentence with cubes and compares expressions (cubes) using counting. "1, 2, 3, 4, 5, 6, 7" "1, 2, 3, 4, 5, 6" "The sides are not equal."
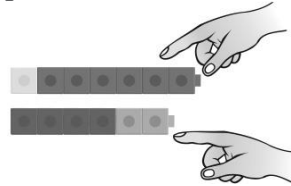
Observations/Documentation

4. Student models equality and inequality with cubes, but struggles to interpret the pan balance.	5. Student models equality and inequality with cubes and compares expressions, but does not understand when to use the equal (=) and not equal (≠) symbols. "I'm not sure which sign to use."	6. Student models and describes equality and inequality, and understands and uses the equal (=) and not equal (≠) symbols when comparing expressions.

Observations/Documentation

Tent Cards

Fold here   Fold here

‖			||||̸
‖			||||̸
‖			||||̸
‖			||||̸

Name_____ Date _____

Equal or Not Equal? **Number Sentences**

Write = or ≠ in each box.

9 + 3	☐	15
17	☐	8 + 9
7 + 9	☐	10 + 6
12 + 0	☐	12
11 – 2	☐	8 + 0
11 + 3	☐	16 – 2
13 – 5	☐	7 + 2

Name_____ Date _____

Equal or Not Equal? **Number Sentences**

Write = or ≠ in each box.

12 + 13	☐	27
27	☐	11 + 10
5 + 21	☐	14 + 14
12 + 20	☐	11 + 31
33 − 12	☐	8 + 9 + 3
21 + 3	☐	26 − 2
38 − 7	☐	39 − 5 − 4

Name_____ Date _____

Equal or Not Equal? **Number Sentences**
(for *Accommodations***)**

Write = or ≠ in each box.

5 + 3	☐	7
8	☐	2 + 6
3 + 2	☐	1 + 4
2 + 0	☐	2
5 – 2	☐	1 + 3
3 + 3	☐	7 – 1
6 – 2	☐	4 + 1

Name_____ Date _____
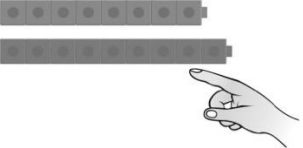
Equal or Not Equal? **Number Sentences**

(for *Combined Grades Extension*)

Write each side of a number sentence, then write = or ≠ in the box.

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Master 41: Activity 18 Assessment
Exploring Number Sentences

Exploring Number Sentences Behaviours/Strategies		
1. Student chooses a number sentence, but struggles to compare expressions and compares one number on each side (e.g., compares 13 and 7 for 13 − 5 ☐ 7 + 2).	2. Student takes cubes, but struggles to model add-to and take-from situations with cubes.	3. Student models add-to and take-from situations with cubes and compares expressions by comparing lengths or using one-to-one matching.
Observations/Documentation		

4. Student models add-to and take-from situations with cubes and compares expressions by counting. "1, 2, 3, …, 6, 7, 8" "1, 2, 3, …, 7, 8, 9" "The sides are not equal."	5. Student models add-to and take-from situations with cubes and compares expressions, but does not understand when to use the equal (=) and not equal (≠) symbols. "I'm not sure which sign to use."	6. Student models add-to and take-from situations with cubes, and understands and uses the equal (=) and not equal (≠) symbols when comparing expressions.
Observations/Documentation		

Name_____ Date _____

Bean Bag Toss

Amani and Avery each scored 50 points in the bean bag toss.

They each tossed the bean bag 3 times,
but their tosses were not the same.

What might they have scored on each toss?"
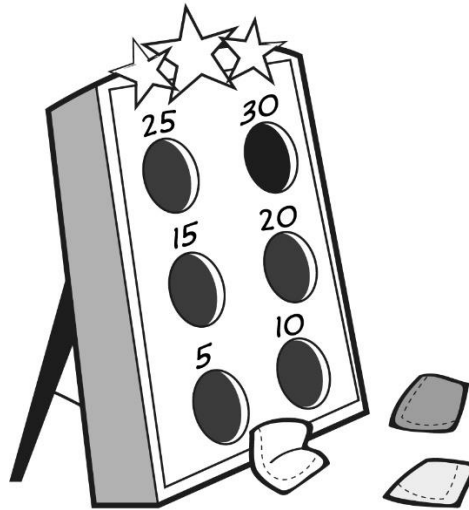
For each player, write the score for each toss and a number sentence
to show the sum.

Score	Toss 1	Toss 2	Toss 3	Sum
Amani				
Avery				

Name_____ Date _____

Bean Bag Toss

Look at the expressions in each number sentence.
Are the expressions equal?
How do you know? Show your work.

Name_____ Date _____

Bean Bag Toss (Accommodations)

Amani and Avery each scored 30 points in the bean bag toss.

They each tossed the bean bag 3 times,
but their tosses were not the same.

What might they have scored on each toss?"

For each player, write the score for each toss and a number sentence
to show the sum.

Score	Toss 1	Toss 2	Toss 3	Sum
Amani				
Avery				

Master 42d **Bean Bag Toss** (Accommodations)

Look at the expressions in each number sentence.
Are the expressions equal?
How do you know? Show your work.

Master 43: Activity 19 Assessment
Exploring Number Sentences for Larger Numbers

Finding Equivalent addition and Subtraction Expressions Behaviours/Strategies

1. Student chooses 3 random numbers and adds them together to see if they equal 50. "How can I make 50 with 3 bean bag tosses? That's hard."	2. Student models the tosses concretely, lining up concrete models end to end to prove equality, but doesn't write related number sentences. 30 15 5 25 10 15 "They both have the same length."	3. Student models the tosses concretely and uses the values to prove equality, but has difficulty writing the related number sentences. 50 50 "They're both 50, so they are the same."
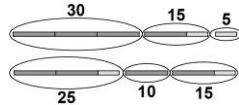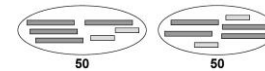
Observations/Documentation

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4. Student models the tosses pictorially and proves equality, but doesn't write related number sentences or see equivalent expressions. "They're both 50."	5. Student writes number sentences to show the total scores, then compares the sums to prove equality. 30 + 15 + 5 = 50 25 + 10 + 15 = 50 "Since both add to 50, I know that 30 + 15 + 5 = 25 + 10 + 15."	6. Student writes number sentences to show the total scores and uses reasoning to prove equality. $\overset{-5}{30} + 15 + \overset{+5}{5} = 25 + 10 + 15$ "It's like 5 is taken away from 30 and given to 5."
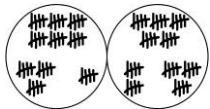
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Name_____ Date _____
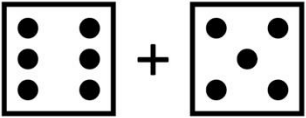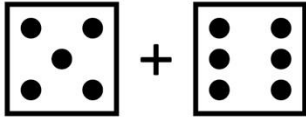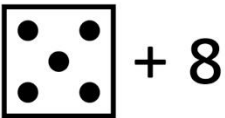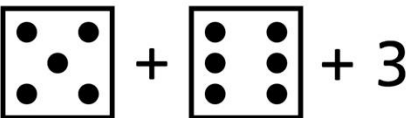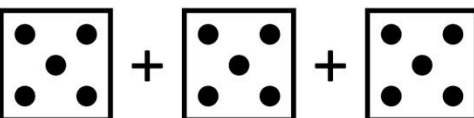
Equal Match Board

=
=
=
=
=
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=
=

Master 45a

Equal Match Cards

A	B
[6]+[5]	[5]+[6]
9 + 0	0 + 9
[5] + 8	[5]+[5]+[3]
12 + [3]	3 + 12
[5]+[6] + 3	9 + 5
[5]+[5]+[5]	15 − 0
17 − 0	15 + 2
13 + 5	5 + 13
9 + 6	5 + 4 + 6

Master 45b   *Related Operations* Match Cards

A +	B 2×5
A $9 + 0$	B 1×9
A 3×3	B + +
A $12 \div \boxed{\bullet}$	B $12 - 0$
A $9 - 3 - 3 - 3$	B $9 \div 3$
A $6 \div 2$	B $6 - 2 - 2 - 2$
A $15 - 5 - 5 - 5$	B $15 \div 5$
A $8 - 4 - 4$	B $8 \div 4$
A 6×3	B $3 + 3 + 3 + 3 + 3 + 3$

Name_____ Date _____

Equal Match Cards
(for Accommodations)

A	B
+	2 + 3
8 + 0	8
+	4 + 2
+	5 + 2
4	+ 0
3 – 0	3
+ 0	5
+	5 + 1
+	4 + 1

Name_____ Date _____

Equal Match Cards

A	B
A $30 + 13$	B $48 - 5$
A $24 + 25$	B $50 - 1$
A $21 + 3 + 6$	B $30 + 0$
A $5 + 5 + 5 + 5 + 5 + 5 + 5$	B 7×5
A $9 + 39$	B $5 + 20 + 23$
A $37 - 21$	B $20 - 4$
A $19 - 0$	B $44 - 13 - 12$
A 6×3	B $3 + 3 + 3 + 3 + 3 + 3$
A $17 + 8$	B $50 - 25$

Master 46: Activity 20 Assessment
Exploring Properties

Exploring Properties of Addition and Subtraction Behaviours/Strategies		
1. Student turns over a card, but struggles to explore properties of addition and subtraction (e.g., adding or subtracting zero, commutativity of addition) and does not know how to represent adding or subtracting zero with counters. "How do I show adding zero with counters?"	2. Student explores properties of addition and subtraction, but thinks matching expressions must have the same numbers in the same order and the same operation(s). "How can 17 – 0 and 15 + 2 match?"	3. Student explores properties of addition and subtraction and represents expressions with counters, but struggles to compare counters.

Observations/Documentation

4. Student explores properties of addition and subtraction, but does not match a card with addition (subtraction) to a card with multiplication (division). "They can't match. This one adds numbers and that one multiplies numbers."	5. Student explores properties of addition and subtraction, but does not recognize any patterns in matching cards. "I don't see any patterns."	6. Student successfully explores properties of addition and subtraction (e.g., adding or subtracting zero, commutativity of addition, relating addition to multiplication and subtraction to division) and recognizes patterns. "It doesn't matter what order you add the numbers. Adding or subtracting zero doesn't make a difference."

Observations/Documentation

Master 47a   *Find the Missing Number Cards*

$10 = \boxed{} + 7$	$8 + \boxed{} = 15$
$5 + \boxed{} = 12$	$14 = 3 + \boxed{}$
$12 = 15 - \boxed{}$	$13 = \boxed{} - 6$
$18 - \boxed{} = 9$	$\boxed{} - 7 = 4$

Master 47b   *Find the Missing Number **Cards***

$3 + 5 = \boxed{} + 2$

$\boxed{} + 1 = 3 + 7$

$5 + \boxed{} = 9 + 3$

$6 + 8 = 9 + \boxed{}$

$4 + 8 = 15 - \boxed{}$

$5 + 6 = \boxed{} - 5$

$12 - \boxed{} = 4 + 5$

$\boxed{} - 8 = 7 + 2$

Find the Missing Number Cards

$10 + \square = 18 + 5$

$\square + 21 = 15 + 9$

$19 + 9 = \square + 20$

$8 + 18 = 12 + \square$

$14 + 8 = 27 - \square$

$11 + 12 = \square - 5$

$21 - \square = 7 + 11$

$\square - 7 = 7 + 8$

Name_____ Date _____

Find the Missing Number Cards
(for *Accommodations*)

$3 = \square + 1$	$2 + \square = 4$
$7 = 6 + \square$	$3 + \square = 5$
$4 = 6 - \square$	$2 = \square - 5$
$\square = 5 - 1$	$\square - 2 = 3$

Master 48: Activity 21 Assessment
Missing Numbers

Finding the Missing Number Behaviours/Strategies		
1. Student uses a pan balance to solve for an unknown value in an addition problem, adding cubes until the pans balance (gives no thought to numbers).	2. Student turns over a card, but focuses on one side of the equation, giving no thought to the other side, and is unable to solve for an unknown value in an addition problem. $3 + 5 = \mathbf{8} + 2$	3. Student solves for an unknown value in some addition problems, but struggles when the unknown number is in certain positions (e.g., at the start). $\square + 1 = 3 + 7$ "How do I find the missing number?"
Observations/Documentation		

4. Student successfully solves for an unknown value in addition problems, but struggles when the problems involve subtraction. $4 + 8 = 15 - \square$ "I can't do subtraction."	4 Student successfully solves for an unknown value in addition and subtraction problems regardless of its position, but struggles to explain thinking.	5 Student successfully solves for an unknown value in addition and subtraction problems regardless of its position, and explains thinking.
Observations/Documentation		

Name_____ Date _____

Number Sentence **Recording Sheet**

Our number: _____

☐ **+** ☐ **=** ☐ **+** ☐

☐ **+** ☐ **=** ☐ **+** ☐

☐ **+** ☐ **≠** ☐ **+** ☐

Name_____ Date _____

Number Sentence **Recording Sheet**

Our number: _____

☐ ─ ☐ = ☐ ─ ☐

☐ ─ ☐ = ☐ ─ ☐

☐ ─ ☐ ≠ ☐ ─ ☐

Name_____ Date _____

Number Sentence **Recording Sheet**

Our number: _____

☐ − ☐ = ☐ + ☐

☐ − ☐ = ☐ + ☐

☐ − ☐ ≠ ☐ + ☐

Master 50: Activity 22 Assessment
Equality and Inequality: Consolidation

Expressing Equality and Inequality Behaviours/Strategies

1. Student chooses a number, but struggles to decompose number into two parts.	2. Student models equality with cubes, but struggles to record different expressions of the same quantity as equalities (cannot write number sentence). "What do I write?"	3. Student writes number sentences for equalities, but does not consider zero, or thinks the same cubes in the opposite order is not an equality. "How can these be equal?"
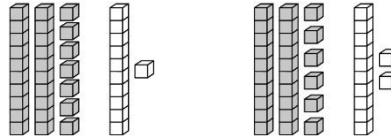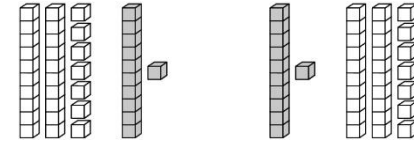
Observations/Documentation

4. Student writes number sentences for equalities, but struggles to model or write number sentences for inequalities.	5. Student writes number sentences for equalities, but struggles to use the not equal symbol when comparing expressions. 27 + 11 26 + 13	6. Student records different expressions of the same quantity as equalities, and understands and uses the equal (=) and not equal (≠) symbols when writing number sentences and comparing expressions. 17 + 23 = 18 + 22 17 + 23 ≠ 18 + 24
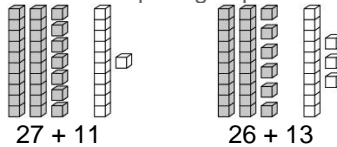
Observations/Documentation

Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **M1 Attributes, Units, and Measurement Sense:** estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using non-standard units and standard units **M2 Measurement Relationships:** compare, describe, and order objects, using attributes measured in non-standard units and standard units. **Cross Strand:** Number **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points			
M1.2 estimate and measure length, height, and distance, using standard units (i.e., centimetre, metre) and non-standard units **M1.3** record and represent measurements of length, height, and distance in a variety of ways (e.g., written, pictorial, concrete) **M1.5** estimate, measure, and record the distance around objects, using non-standard units **M1.6** estimate, measure, and record area, through investigation using a variety of non-standard units	**Below Grade: Intervention** 1: Exploring Length 2: Conserving Area **On Grade: Teacher Cards** 1: Measuring Length 1 (M1.2, M1.3, N2.9) 2: Measuring Length 2 (M1.2, M1.3, N2.1) 3: Measuring Distance Around (M1.2, M1.3, M1.5, N2.1) 4: Measuring Mass (M1.7, M2.2, N2.1) 5: Measuring Area (M1.6, N2.1) 6: Measuring Capacity (M1.7, M2.2, N2.1) 7: Using Non-Standard Units Consolidation (M1.2, M1.3, M1.5, M1.6, M1.7, N2.1)	**Below Grade:** • The Amazing Seed (Activities 1, 2, 7) • Animal Measures (Activities 1, 2, 7) **On Grade:** • Getting Ready for School (Activities 1, 2, 3, 7) • The Discovery (Activities 2, 3, 5, 7)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Non-Standard Units to Estimate, Measure, and Make Comparisons** - Understands that there should be no gaps or overlaps when measuring. (Activities 1, 2, 3, 5, 7) - Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by • using an intermediary object (Activities 6, 7) • using multiple copies of a unit (Activities 1, 3, 4, 5, 7) • iterating a single unit (Activities 2, 3, 5, 7) - Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass. (Activity 7; MED 1: 1, 2) **Understanding Relationships Among Measurement Units** - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). (Activities 1, 4)

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Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Ontario (continued)

M1.7 estimate, measure, and record the capacity and/or mass of an object, using a variety of non-standard units **M2.2** compare and order a collection of objects by mass and/or capacity, using non-standard units **N2.1** count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10	**On Grade: Math Every Day Card 1:** Estimation Scavenger Hunt (M1.2, M1.5, M1.6, M1.7) Estimation Station (M1.2, M1.5, M1.6, M1.7, N2.1)		**Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.**
			Understanding Attributes That Can Be Measured - Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). (Activity 7) - Understands conservation of length (e.g., a string is the same length when straight and not straight), capacity (e.g., two differently shaped containers may hold the same amount), and area (e.g., two surfaces of different shapes can have the same area). (Activities 5, 6) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activity 3)
			Big Idea: Numbers tell us how many and how much.
			Applying the Principles of Counting - Says the number name sequence forward through the teen numbers. (Activities 1, 2, 3, 4, 5, 6, 7)

Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Shape and Space:** Use direct or indirect measurement to solve problems.			
SS2 Relate the size of a unit of measure to the number of units (limited to nonstandard units) used to measure length and mass (weight). **SS3** Compare and order objects by length, height, distance around and mass (weight) using nonstandard units, and make statements of comparison. **SS4** Measure length to the nearest non-standard unit by: • **SS4.1** using multiple copies of a unit • **SS4.2** using a single copy of a unit (iteration process). **SS5** Demonstrate that changing the orientation of an object does not alter the measurements of its attributes.	**Below Grade: Intervention** 1: Exploring Length 2: Conserving Area **On Grade: Teacher Cards** 1: Measuring Length 1 (SS2, SS3, SS4, SS5) 2: Measuring Length 2 (SS3, SS4) 3: Measuring Distance Around (SS3) 4: Measuring Mass (SS2, SS3) 5: Measuring Area 6: Measuring Capacity 7: Using Non-Standard Units Consolidation (SS3, SS4) **On Grade: Math Every Day Card 1:** Estimation Scavenger Hunt (SS3) Estimation Station (SS3)	**Below Grade:** • The Amazing Seed (Activities 1, 2, 7) • Animal Measures (Activities 1, 2, 7) **On Grade:** • Getting Ready for School (Activities 1, 2, 3, 7) • The Discovery (Activities 2, 3, 5, 7)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Non-Standard Units to Estimate, Measure, and Make Comparisons** - Understands that there should be no gaps or overlaps when measuring. (Activities 1, 2, 3, 5, 7) - Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by • using an intermediary object (Activities 6, 7) • using multiple copies of a unit (Activities 1, 3, 4, 5, 7) • iterating a single unit (Activities 2, 3, 5, 7) - Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass. (Activity 7; MED 1: 1, 2) **Understanding Relationships Among Measurement Units** - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). (Activities 1, 4) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). (Activity 7) - Understands conservation of length (e.g., a string is the same length when straight and not straight), capacity (e.g., two differently shaped containers may hold the same amount), and area (e.g., two surfaces of different shapes can have the same area). (Activities 5, 6) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activity 3)

Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Shape and Space:** Use direct or indirect measurement to solve problems.			
2.SS.2 Relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass (weight). **2.SS.3** Compare and order objects by length, height, distance around, and mass (weight) using non-standard units, and make statements of comparison. **2.SS.4** Measure length to the nearest non-standard unit by • using multiple copies of a unit • using a single copy of a unit (iteration process) **2.SS.5** Demonstrate that changing the orientation of an object does not alter the measurements of its attributes.	**Below Grade: Intervention** 1: Exploring Length 2: Conserving Area **On Grade: Teacher Cards** 1: Measuring Length 1 (2.SS.2, 2.SS.3, 2.SS.4, 2.SS.5) 2: Measuring Length 2 (2.SS.3, 2.SS.4) 3: Measuring Distance Around (2.SS.3) 4: Measuring Mass (2.SS.2, 2.SS.3) 5: Measuring Area 6: Measuring Capacity 7: Using Non-Standard Units Consolidation (2.SS.3, 2.SS.4) **On Grade: Math Every Day Card 1:** Estimation Scavenger Hunt (2.SS.3) Estimation Station (2.SS.3)	**Below Grade:** • The Amazing Seed (Activities 1, 2, 7) • Animal Measures (Activities 1, 2, 7) **On Grade:** • Getting Ready for School (Activities 1, 2, 3, 7) • The Discovery (Activities 2, 3, 5, 7)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Non-Standard Units to Estimate, Measure, and Make Comparisons** - Understands that there should be no gaps or overlaps when measuring. (Activities 1, 2, 3, 5, 7) - Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by • using an intermediary object (Activities 6, 7) • using multiple copies of a unit (Activities 1, 3, 4, 5, 7) • iterating a single unit (Activities 2, 3, 5, 7) - Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass. (Activity 7; MED 1: 1, 2) **Understanding Relationships Among Measurement Units** - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). (Activities 1, 4) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). (Activity 7) - Understands conservation of length (e.g., a string is the same length when straight and not straight), capacity (e.g., two differently shaped containers may hold the same amount), and area (e.g., two surfaces of different shapes can have the same area). (Activities 5, 6) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activity 3)

Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Measurement:** Students will be expected to use direct and indirect measure to solve problems. **Cross Strand** **Number:** Students will be expected to develop number sense.			

M02 Students will be expected to relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass.
 	
M03 Students will be expected to compare and order objects by length, height, distance around, and mass using non-standard units and make statements of comparison.
 	
M04 Students will be expected to measure length to the nearest non-standard unit by using multiple copies of a unit and using a single copy of a unit (iteration process).
 	
M05 Students will be expected to demonstrate that changing the position of an object does not alter the measurements of its attributes.
	Below Grade: Intervention
	1: Exploring Length
	2: Conserving Area
	
	On Grade: Teacher Cards
	1: Measuring Length 1 (M02, M03, M04, M05)
	2: Measuring Length 2 (M03, M04)
	3: Measuring Distance Around (M03)
	4: Measuring Mass (M02, M03)
	5: Measuring Area
	6: Measuring Capacity
	7: Using Non-Standard Units Consolidation (M03, M04)
	
	On Grade: Math Every Day Card 1:
	Estimation Scavenger Hunt (M03)
	Estimation Station (M03
		Below Grade:
		• The Amazing Seed (Activities 1, 2, 7)
		• Animal Measures (Activities 1, 2, 7)
		
		On Grade:
		• Getting Ready for School (Activities 1, 2, 3, 7)
		• The Discovery (Activities 2, 3, 5, 7)
			Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.
			
			Selecting and Using Non-Standard Units to Estimate, Measure, and Make Comparisons
			- Understands that there should be no gaps or overlaps when measuring. (Activities 1, 2, 3, 5, 7)
			- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by
			  • using an intermediary object (Activities 6, 7)
			  • using multiple copies of a unit (Activities 1, 3, 4, 5, 7)
			  • iterating a single unit (Activities 2, 3, 5, 7)
			- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass. (Activity 7; MED 1: 1, 2)
			Understanding Relationships Among Measurement Units
			- Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). (Activities 1, 4)
			
			Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.
			
			Understanding Attributes That Can Be Measured
			- Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). (Activity 7)
			- Understands conservation of length (e.g., a string is the same length when straight and not straight), capacity (e.g., two differently shaped containers may hold the same amount), and area (e.g., two surfaces of different shapes can have the same area). (Activities 5, 6)
			- Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activity 3)

Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Alberta/Northwest Territories/Nunavut

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Shape and Space:** Use direct and indirect measurement to solve problems. **Cross Strand** **Number:** Develop number sense.			
Shape and Space **2.** Relate the size of a unit of measure to the number of units (limited to nonstandard units) used to measure length and mass (weight). **3.** Compare and order objects by length, height, distance around and mass (weight), using nonstandard units, and make statements of comparison. **4.** Measure length to the nearest non-standard unit by: • using multiple copies of a unit • using a single copy of a unit (iteration process) **5.** Demonstrate that changing the orientation of an object does not alter the measurements of its attributes.	**Below Grade: Intervention** 1: Exploring Length 2: Conserving Area **On Grade: Teacher Cards** 1: Measuring Length 1 (SS2, SS3, SS4, SS5) 2: Measuring Length 2 (SS2, SS3, SS4) 3: Measuring Distance Around (SS3) 4: Measuring Mass (SS2, SS3) 5: Measuring Area 6: Measuring Capacity 7: Using Non-Standard Units Consolidation (SS2, SS3, S4, SS4) **On Grade: Math Every Day Card 1:** Estimation Scavenger Hunt 2SS3) Estimation Station (SS3)	**Below Grade:** • The Amazing Seed (Activities 1, 2, 7) • Animal Measures (Activities 1, 2, 7) **On Grade:** • Getting Ready for School (Activities 1, 2, 3, 7) • The Discovery (Activities 2, 3, 5, 7)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Non-Standard Units to Estimate, Measure, and Make Comparisons** - Understands that there should be no gaps or overlaps when measuring. (Activities 1, 2, 3, 5, 7) - Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by • using an intermediary object (Activities 6, 7) • using multiple copies of a unit (Activities 1, 3, 4, 5, 7) • iterating a single unit (Activities 2, 3, 5, 7) - Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass. (Activity 7; MED 1: 1, 2) **Understanding Relationships Among Measurement Units** - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). (Activities 1, 4) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). (Activity 7)

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Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Alberta/Northwest Territories/Nunavut (continued)

			- Understands conservation of length (e.g., a string is the same length when straight and not straight), capacity (e.g., two differently shaped containers may hold the same amount), and area (e.g., two surfaces of different shapes can have the same area). (Activities 5, 6) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activity 3)

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Curriculum Correlation
Measurement Cluster 1: Using Non-Standard Units

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Number Sense, Mathematics as a Human Endeavour			
Shape and Space **SS2.1** Demonstrate understanding of non-standard units for linear measurement by: • **SS2.1a** describing the choice and appropriate use of non-standard units • **SS2.1b** estimating • **SS2.1c** measuring • **SS2.1d** comparing and analyzing measurements. **SS2.2** Demonstrate understanding of non-standard units for measurement of mass by: • **SS2.2a** describing the choice and appropriate use of non-standard units • **SS2.2b** estimating • **SS2.2c** measuring • **SS2.2d** comparing and analyzing measurements.	**Below Grade: Intervention** 1: Exploring Length 2: Conserving Area **On Grade: Teacher Cards** 1: Measuring Length 1 (SS2.1a, SS2.1b, SS2.1c, SS2.1d) 2: Measuring Length 2 (SS2.1a, SS2.1b, SS2.1c, SS2.1d) 3: Measuring Distance Around (SS2.1a, SS2.1b, SS2.1c, SS2.1d) 4: Measuring Mass (SS2.2a, SS2.2b, SS2.2c, SS2.2d) 5: Measuring Area 6: Measuring Capacity 7: Using Non-Standard Units Consolidation (SS2.1a, SS2.1b, SS2.1c, SS2.1d, SS2.2a, SS2.2a, SS2.2c, SS2.2d) **On Grade: Math Every Day Card 1:** Estimation Scavenger Hunt (SS2.1b, SS2.1c, SS2.2b, SS2.2c) Estimation Station (SS2.1b, SS2.1c, SS2.2b, SS2.2c)	**Below Grade:** • The Amazing Seed (Activities 1, 2, 7) • Animal Measures (Activities 1, 2, 7) **On Grade:** • Getting Ready for School (Activities 1, 2, 3, 7) • The Discovery (Activities 2, 3, 5, 7)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Non-Standard Units to Estimate, Measure, and Make Comparisons** - Understands that there should be no gaps or overlaps when measuring. (Activities 1, 2, 3, 5, 7) - Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by • using an intermediary object (Activities 6, 7) • using multiple copies of a unit (Activities 1, 3, 4, 5, 7) • iterating a single unit (Activities 2, 3, 5, 7) - Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass. (Activity 7; MED 1: 1, 2) **Understanding Relationships Among Measurement Units** - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). (Activities 1, 4) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). (Activity 7) - Understands conservation of length (e.g., a string is the same length when straight and not straight), capacity (e.g., two differently shaped containers may hold the same amount), and area (e.g., two surfaces of different shapes can have the same area). (Activities 5, 6) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activity 3)

Name_____ Date _____

Measuring Carrots Recording Sheet

Measuring with Centicubes

Carrot Number	Estimate	Measure
1		
2		
3		
4		
5		

Name_____ Date _____

Measuring with Paper Clips

Carrot Number	Estimate	Measure
1		
2		
3		
4		
5		

Master 3: Activity 1 Assessment
Measuring Length 1

Estimating and Measuring Length Behaviours/Strategies		
1. Student estimates objects by length with nonstandard units, but estimates are extreme/unreasonable. "About 100 cubes!"	2. Student measures objects by length using multiple copies of a non-standard unit, but units are not placed end-to-end.	3. Student measures objects by length using multiple copies of a non-standard unit, but does not align the base of the first unit with the end of the object being measured.
Observations/Documentation		
4. Student measures objects by length using multiple copies of a non-standard unit, measures with cubes, and assumes the same count for paper clips.	5. Student measures objects by length using multiple copies of a non-standard unit, but thinks turning an object will affect its length.	6. Student successfully estimates and measures objects by length using multiple copies of a non-standard unit and realizes that turning an object does not affect its length. "It is 5 cubes long."
Observations/Documentation		
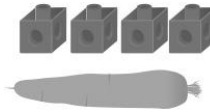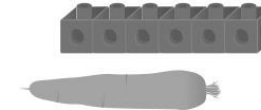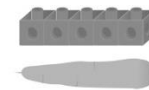
Name_____ Date _____

Which is Longer? Recording Sheet

	Estimate	**Measure**
Wolf paw print		
My hand		

Which is longer? _____

Master 5: Activity 2 Assessment
Measuring Length 2

Estimating, Measuring, and Comparing Length Behaviours/Strategies

1. Student estimates objects by length with non-standard units, but estimates are very large or very small. "About 100 cubes!"	2. Student measures objects by length by iterating a single non-standard unit, but there are many gaps or overlaps.	3. Student measures objects by length by iterating a single non-standard unit, but has difficulty tracking the length of the cube while measuring.	4. Student measures objects by length by iterating a single non-standard unit, but has difficulty keeping track of the count. "I forget how many times I moved the cube."

Observations/Documentation

5. Student measures objects by length by iterating a single non-standard unit, but forgets to include the unit when stating the measure. "It is 5 long."	6. Student measures objects by length by iterating a single non-standard unit, but gives the length as a whole number and ignores the leftover amount. "It is 5 cubes long."	7. Student successfully estimates and measures objects by length by iterating a single non-standard unit, but struggles to compare lengths. "I'm not sure which is longer."	8. Student successfully estimates, measures, and compares objects by length by iterating a single non-standard unit. "My hand is longer. It is a little more than 6 cubes long."

Observations/Documentation

Name_____ Date _____

How Big Around? Recording Sheet

Can	Estimate	Measure
1		
2		
3		

Order cans from least to greatest distance around:

_____   _____   _____

Master 7: Activity 3 Assessment
Measuring Distance Around

Estimating, Measuring, and Comparing Distance Around Behaviours/Strategies

1. Student attempts to estimate objects by length (distance around) with non-standard units, but estimates are extreme/unreasonable. "About 100 paper clips!"	2. Student estimates objects by length (distance around) with non-standard units, but struggles to use string to measure.	3. Student measures objects by length (distance around) using multiple copies of a non-standard unit, but units are not placed end-to-end (there are gaps or overlaps).	4. Student measures objects by length (distance around) using multiple copies of a non-standard unit, but does not align the base of the first unit with the end of the object being measured.

Observations/Documentation

5. Student measures objects by length (distance around) by iterating a single non-standard unit, but has difficulty tracking the length of the paper clip or loses track of the count. "I forget how many times I moved the paper clip."	6. Student measures objects by length (distance around) with non-standard units, but forgets to include the unit when stating the measure. "It is 8 long."	7. Student measures objects by length (distance around) with non-standard units, but struggles to compare and order objects.	8. Student successfully estimates, measures, compares, and orders objects by length (distance around) with non-standard units.

Observations/Documentation

Name_____ Date _____

Measurement Recording Sheet

Object 1: _____ Object 2: _____

Object 3: _____

Object	Attribute Measured	Tool or Unit Used	Estimate	Measure
1				
2				
3				

Name_____ Date _____

Measurement **Recording Sheet**

Write one thing that is important to remember when measuring:

Length:_____

_____

Distance Around: _____

_____

Master 9: Activity 4 Assessment
Using Non-Standard Units: Consolidation

Measuring Behaviours/Strategies		
1. Student estimates objects by length and distance around using non-standard units, but estimates are unreasonable.	2. Student chooses an attribute, but does not select an appropriate non-standard unit to measure. "I will use the pan balance to measure length."	3. Student measures objects using non-standard units, but focuses on one attribute. "I like to measure length."

Observations/Documentation		

4. Student measures objects by length and distance around using non-standard units, but leaves gaps or overlaps.	5. Student successfully measures objects by length and distance around using non-standard units, but does not include a unit with the measure. "Its distance around is 6."	6. Student successfully measures objects by length and distance around using non-standard units.

Observations/Documentation		

Curriculum Correlation
Measurement Cluster 2: Using Standard Units

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **M1 Attributes, Units, and Measurement Sense:** estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using non-standard units and standard units **Cross Strand:** Number **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points			
M1.1 choose benchmarks – in this case, personal referents – for a centimetre and a metre to help them perform measurement tasks **M1.2** estimate and measure length, height, and distance, using standard units (i.e., centimetre, metre) and non-standard units **M1.3** record and represent measurements of length, height, and distance in a variety of ways (e.g., written, pictorial, concrete) **M1.4** select and justify the choice of a standard unit (i.e., centimetre or metre) or a nonstandard unit to measure length	**Below Grade: Intervention** 3: Iterating the Unit 4: Using a Centicube Ruler **On Grade: Teacher Cards** 8: Benchmarks and Estimation (M1.1, M1.2, M1.3, N2.1) 9: The Metre (M1.2, M1.3, N2.1) 10: The Centimetre (M1.2, M1.3, N2.1) 11: Metres or Centimetres? (M1.2, M1.3, M1.4, N2.1) 12: Using Standard Units Consolidation (M1.2, M.3, M1.4, N1.9) **On Grade: Math Every Day Card 2:** What Am I? (M1.2) Which Unit? (M1.4)	**On Grade:** • The Discovery (Activities 8, 9, 12) **Above Grade:** • Measurements About YOU! (Activities 8, 9, 10, 12) • The Bunny Challenge (Activities 9, 10, 12) • Goat Island (Activities 9, 10, 12)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Standard Units to Estimate, Measure, and Make Comparisons** - Demonstrates ways to estimate, measure, compare, and order objects by length, perimeter, area, capacity, and mass with standard units by • using an intermediary object of a known measure • using multiple copies of a unit (Activity 10) • iterating a single unit (Activities 9, 11, 12) - Selects and uses appropriate standard units to estimate, measure, and compare length, perimeter, area, capacity, mass, and time. (Activities 9, 10, 11, 12; MED 2: 1, 2) - Uses the measurement of familiar objects as benchmarks to estimate another measure in standard units. (Activities 8, 9, 10, 12; MED 2: 1) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Understands that some things have more than one attribute that can be measured. (Activities 8, 9, 10. 11, 12) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activities 9, 11, 12)

Curriculum Correlation
Measurement Cluster 2: Using Standard Units

Ontario (continued)

N2.1 count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10			**Big Idea: Numbers tell us how many and how much.**
			Applying the Principles of Counting - Says the number name sequence forward through the teen numbers. (Activities 8, 9, 10, 11, 12)

Curriculum Correlation
Measurement Cluster 2: Using Standard Units

British Columbia/Yukon

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Objects and shapes have attributes that can be described, measured, and compared. **Cross Strand:** Number Numbers to 100 represent quantities that can be decomposed into 10s and 1s.			
M1 Direct linear measurement, introducing standard metric units • **M2.1** centimetres and metres • **M2.2** estimating length • **M2.3** measuring and recording length, height, and width using standard units	**Below Grade: Intervention** 3: Iterating the Unit 4: Using a Centicube Ruler **On Grade: Teacher Cards** 8: Benchmarks and Estimation (M2.1, M2.2) 9: The Metre (M2.1, M2.2, M2.3) 10: The Centimetre (M2.1, M2.2, M2.3) 11: Metres or Centimetres? (M2.1, M2.3) 12: Using Standard Units Consolidation (M2.1, M2.2, M2.3) **On Grade: Math Every Day Card 2:** What Am I? (M2.2) Which Unit? (M2.1)	**On Grade:** • The Discovery (Activities 8, 9, 12) **Above Grade:** • Measurements About YOU! (Activities 8, 9, 10, 12) • The Bunny Challenge (Activities 9, 10, 12) • Goat Island (Activities 9, 10, 12)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Selecting and Using Standard Units to Estimate, Measure, and Make Comparisons** - Demonstrates ways to estimate, measure, compare, and order objects by length, perimeter, area, capacity, and mass with standard units by • using an intermediary object of a known measure • using multiple copies of a unit (Activity 10) • iterating a single unit (Activities 9, 11, 12) - Selects and uses appropriate standard units to estimate, measure, and compare length, perimeter, area, capacity, mass, and time. (Activities 9, 10, 11, 12; MED 2: 1, 2) - Uses the measurement of familiar objects as benchmarks to estimate another measure in standard units. (Activities 8, 9, 10, 12; MED 2: 1) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Understands that some things have more than one attribute that can be measured. (Activities 8, 9, 10. 11, 12) - Extends understanding of length to other linear measurements (e.g., height, width, distance around). (Activities 9, 11, 12) **Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequence forward through the teen numbers. (Activities 8, 9, 10, 11, 12)

Name_____ Date _____

Measurement Hunt

Length of Eraser
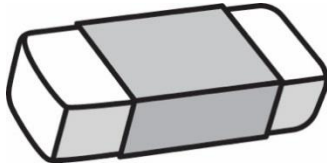
Our estimate is

_____

Our measure is

_____

Length of Teacher's Desk

Our estimate is

_____

Our measure is

_____

Length of Pencil

Our estimate is

_____

Our measure is

_____

Length of Book

Our estimate is

_____

Our measure is

_____

Name_____ Date _____
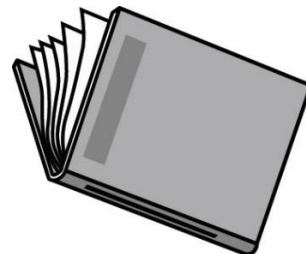
Measurement Hunt

Length of Classroom Floor	**Length of Lockers**
Our estimate is _____ Our measure is _____	Our estimate is _____ Our measure is _____
You Choose! I chose this object: Our estimate is _____ Our measure is _____	**You Choose!** I chose this object: Our estimate is _____ Our measure is _____
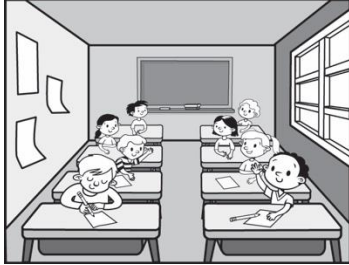
Master 12: Activity 5 Assessment
Benchmarks and Estimation

Using Benchmarks to Estimate and Measure Length Behaviours/Strategies		
1. Student finds object in classroom, but struggles to use benchmarks to estimate length in standard units (estimate is extreme or unreasonable). "About 100 fingers!"	2. Student estimates length in standard units, but does not use appropriate benchmark to estimate and measure. "I am using my finger to measure the length of the floor."	3. Student selects and uses appropriate benchmarks to estimate and measure length in standard units, but leaves gaps or overlaps or has difficulty tracking the finger/step while measuring.

Observations/Documentation		

4. Student uses the measurement of familiar objects as benchmarks to estimate and measure length in standard units, but loses track of the count when measuring. "I forget how many fingers I used."	5. Student uses the measurement of familiar objects as benchmarks to estimate and measure length in standard units, but forgets to include the unit when stating the measure. "It is 7 long."	6. Student successfully uses the measurement of familiar objects as benchmarks to estimate and measure length in standard units and includes units with measures. "The length of the classroom floor is about 8 big steps, or about 8 metres."

Observations/Documentation		

Name_____ Date _____

How Many Metres? (Part 1)

Height of Classroom Door

Our estimate is

_____

Our measure is

_____
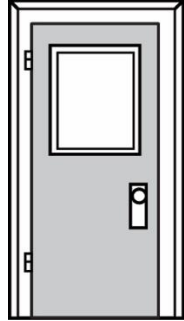
Length of Teacher's Desk

Our estimate is

_____

Our measure is

_____

Width of Window

Our estimate is

_____
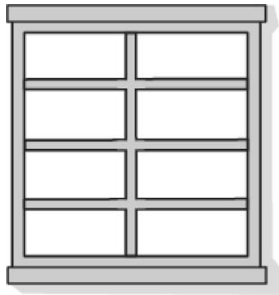
Our measure is

_____

Length of Blackboard

Our estimate is

_____

Our measure is

_____

Name_____ Date _____
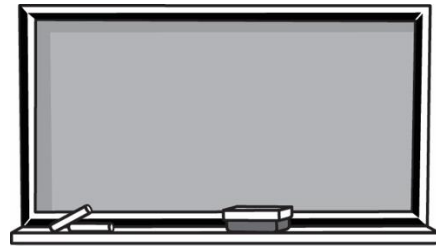
How Many Metres? (Part 2)

Width of Hallway	Length of Whiteboard
Our estimate is	Our estimate is
_____	_____
Our measure is	Our measure is
_____	_____
Length of Classroom	**Length of Bookshelf**
Our estimate is	Our estimate is
_____	_____
Our measure is	Our measure is
_____	_____
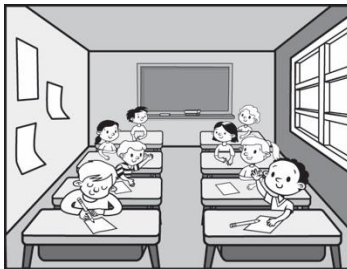
Master 14: Activity 6 Assessment
The Metre

Measuring Length in Metres Behaviours/Strategies		
1. Student struggles to estimate length using a standard unit (metre), and the estimate is extreme or unreasonable. "About 100 metres long!"	2. Student measures length using a standard unit (metre), but does not line up the end of the metre stick with the end of the object being measured.	3. Student measures length using a standard unit (metre), but struggles to iterate the metre stick (leaves gaps or overlaps, or has difficulty tracking the metre stick while measuring).
Observations/Documentation		
4. Student measures length using a standard unit (metre), but loses track of the count when measuring. "I forget how many metre sticks I used."	5. Student measures length using a standard unit (metre), but forgets to include the unit when stating the measure or ignores leftover. "It is 7 long."	6. Student successfully estimates and measures length using a standard unit (metre) and includes units with measures. "The whiteboard is a little less than 3 metres long."
Observations/Documentation		
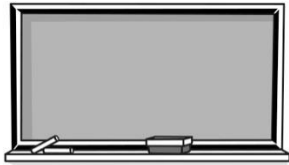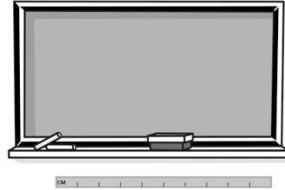
Name_____ Date _____

Centimetre Ruler

0 CM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Name_____ Date _____
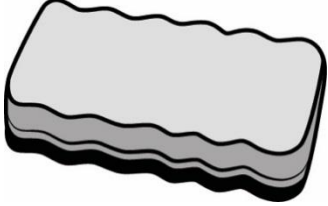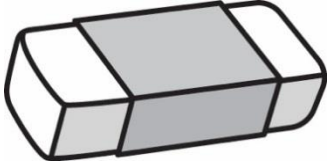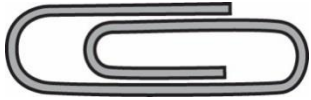
How Many Centimetres?

Whiteboard Eraser	**Marker**
Our estimate is _____ Our measure is _____	Our estimate is _____ Our measure is _____
Eraser	**Large Paper Clip**
Our estimate is _____ Our measure is _____	Our estimate is _____ Our measure is _____

Name_____ Date _____

How Many Centimetres?

Small Scissors	**Length of Book**

Our estimate is

_____

Our measure is

_____

Our estimate is

_____
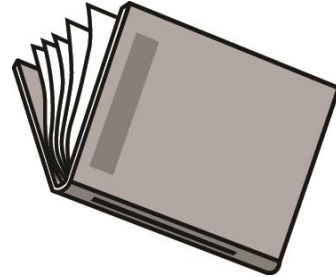
Our measure is

_____

Length of Crayon

Our estimate is

_____

Our measure is

_____

Length of Paint Brush

Our estimate is

_____

Our measure is

_____

Name_____ Date _____
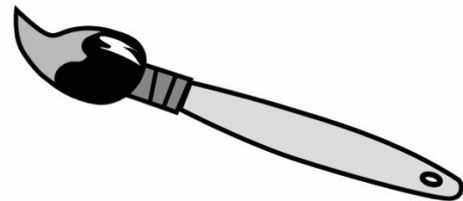
Broken Ruler
(for Combined Grades Extension)

A broken ruler showing measurements from 15 to 29.
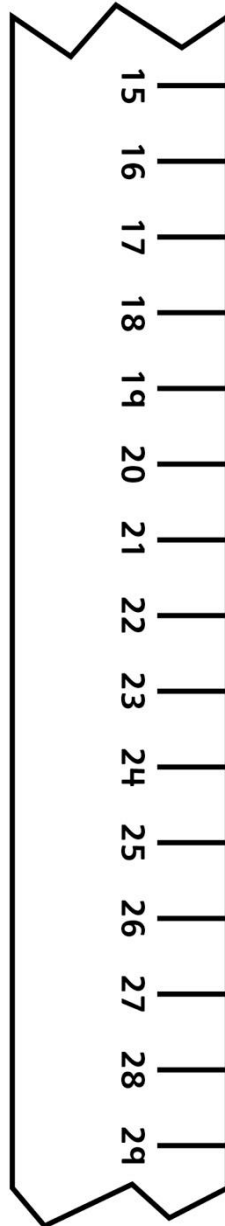
Master 18: Activity 7 Assessment
The Centimetre

Measuring Length in Metres Behaviours/Strategies

1. Student struggles to estimate length using a standard unit (centimetre) and the estimate is extreme or unreasonable. "About 30 centimetres long!"	2. Student measures length using a standard unit (centimetre), but lines up 1 on the ruler with the end of the object being measured.	3. Student measures length using a standard unit (centimetre), but counts tick marks instead of the units between the marks.

Observations/Documentation

4. Student measures length using a standard unit (centimetre), but struggles to deal with part of a centimetre (ignores leftover). "It's 4 centimetres long."	5. Student measures length using a standard unit (centimetre), but forgets to include the unit when stating the measure. "It is 7 long."	6. Student successfully estimates and measures length using a standard unit (centimetre) and includes units with measures. "It is a little less than 5 centimetres long"

Observations/Documentation

Name_____ Date _____

Metres or Centimetres?

Length of Pen

We will use

centimetres   or   **metres**

We will use

ruler   or   **metre stick**

Our measure is

_____

Length of Bulletin Board
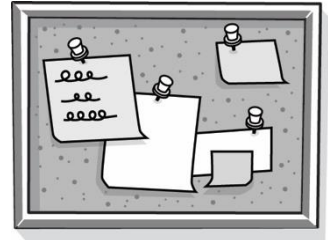
We will use

centimetres   or   **metres**

We will use

ruler   or   **metre stick**

Our measure is

_____

Length of Window Ledge
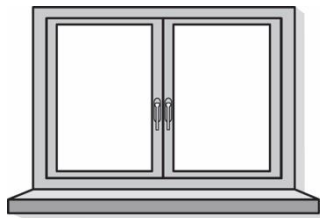
We will use

centimetres   or   **metres**

We will use

ruler   or   **metre stick**

Our measure is

_____

Glue Stick

We will use

centimetres   or   **metres**

We will use

ruler   or   **metre stick**

Our measure is

_____

Name_____ Date _____
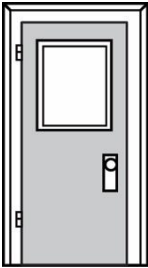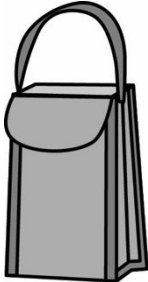
Metres or Centimetres?
(for Extension)

Length of Your Shoe	**Height of Classroom Door**
We will use	We will use
centimetres or **metres**	**centimetres** or **metres**
We will use	We will use
ruler or **metre stick**	**ruler** or **metre stick**
Our measure is	Our measure is
_____	_____
Height of a Classmate	**Height of Lunch Bag**
We will use	We will use
centimetres or **metres**	**centimetres** or **metres**
We will use	We will use
ruler or **metre stick**	**ruler** or **metre stick**
Our measure is	Our measure is
_____	_____

Master 20: Activity 8 Assessment
Metres or Centimetres?
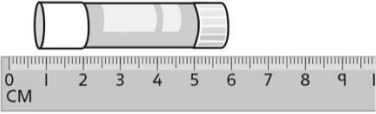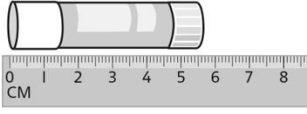
Choosing an Appropriate Standard Unit Behaviours/Strategies

1. Student chooses an object, but struggles to select an appropriate standard unit to measure length.	2. Student selects an appropriate standard unit to measure length, but chooses the wrong tool.	3. Student selects an appropriate standard unit and tool to measure length, but cannot justify choice.	4. Student successfully selects an appropriate standard unit to measure length and justifies choice.
"I'll use metres for the glue stick."	"I chose metres, so I will use the ruler."	"I just know metres is what I should use."	"I will use metres because the object is long."

Observations/Documentation

Measuring Length in Standard Units Behaviours/Strategies

1. Student measures length using standard units, but does not line up the object with the baseline of the measuring tool.	2. Student measures length using standard units, but struggles to iterate the measuring tool.	3. Student measures length using standard units, but forgets to include the unit when stating the measure or ignores leftover.	4. Student successfully measures length using standard units and includes units with measures.
		"5 centimetres"	

Observations/Documentation

Name_____ Date _____

Outdoor Measurement Hunt

Find something you would measure in <u>centimetres</u>.

Draw a picture of it.

Estimate: _____

Measure: _____

Find something you would measure in <u>centimetres</u>.

Draw a picture of it.

Estimate: _____

Measure: _____

Name_____ Date _____

Outdoor Measurement Hunt

Find something you would measure in <u>metres</u>.

Draw a picture of it.

Estimate: _____

Measure: _____

Find something you would measure in <u>metres</u>.

Draw a picture of it.

Estimate: _____

Measure: _____

Master 22: Activity 9 Assessment
Using Standard Units: Consolidation
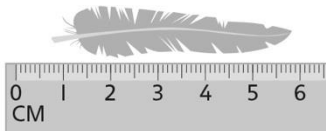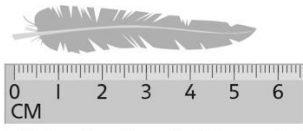
Choosing an Appropriate Unit and Estimating Length Behaviours/Strategies

1. Student chooses an object, but struggles to select an appropriate standard unit to measure length. "I will use centimetres to measure the length of the teeter-totter."	2. Student selects an appropriate standard unit and tool to measure length, but cannot justify choice. "I just know metres is what I should use."	3. Student selects an appropriate standard unit, but the estimate is extreme or unreasonable.	4. Student successfully selects an appropriate standard unit to measure length, and estimates are reasonable.

Observations/Documentation

Measuring Length in Standard Units Behaviours/Strategies

1. Student measures length using standard units, but does not line up the object with the baseline of the measuring tool.	2. Student measures length using standard units, but struggles to iterate the measuring tool.	3. Student measures length using standard units, but forgets to include the unit when stating the measure or ignores leftover. "The feather is 5 long."	4. Student successfully measures length using standard units and includes units with measures. "The feather is a little more than 5 centimetres long."

Observations/Documentation

Curriculum Correlation
Measurement Cluster 3: Time

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **M1 Attributes, Units, and Measurement Sense:** estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using non-standard units and standard units **M2 Measurement Relationships:** compare, describe, and order objects, using attributes measured in non-standard units and standard units. **Cross Strand:** Number **N2 Counting:** demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points			
M1.8 tell and write time to the quarter-hour, using demonstration digital and analogue clocks **M1.9** construct tools for measuring time intervals in non-standard units **M1.10** describe how changes in temperature affect everyday experiences **M1.11** use a standard thermometer to determine whether temperature is rising or falling **M2.3** determine, through investigation, the relationship between days and weeks and between months and years.	**Below Grade: Intervention** 5: Months of the Year 6: Telling Time **On Grade: Teacher Cards** 13: Days and Weeks (M2.3, N2.1) 14: Months in a Year (M2.3, N2.1) 15: Measuring Time (M1.9, N2.1) 16: Time to the Quarter-Hour (M1.8, N2.1) 17: Changes in Temperature (M1.10, M1.11) 18: Time and Temperature Consolidation (M1.8, M1.10, M1.11, M2.3, N2.1) **On Grade: Math Every Day Card 3A:** Hula Hoop Clock (M1.8, N1.1) Calendar Questions (M2.3, N2.1) **Card 3B:** Monthly Mix-Up (M2.3, N2.1) Thermometer Drop or Pop (M1.10, M1.11)	**On Grade:** • Getting Ready for School (Activities 15, 18) **Above Grade:** • Goat Island (Activities 14, 15, 17, 18)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Understanding Relationships Among Measurement Units** - Understands relationship of units of length (mm, cm, m), mass (g, kg), capacity (mL, L), and time (e.g., seconds, minutes, hours). (Activities 13, 14, 18; MED 3A: 2, MED 3B: 1) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Explores measurement of visible attributes (e.g., length, capacity, area) and non-visible attributes (e.g., mass, time, temperature). (Activities 15, 16, 17, 18; MED 3A: 1; MED 3B: 2) **Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequence forward through the teen numbers. (Activities 13, 14, 15, 18; MED 3A: 2; MED 3B: 1) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 16, 18; MED 3A: 1)

Curriculum Correlation
Measurement Cluster 3: Time

Ontario (continued)

N2.1 count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10			**Big Idea: Numbers are related in many ways.**
			Comparing and Ordering Quantities - Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). (Activities 13, 14, 18; MED 3A: 2; MED 3B: 1)

Curriculum Correlation
Measurement Cluster 3: Time

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome **Shape and Space:** Use direct or indirect measurement to solve problems. **Cross Strand** **Number:** Develop number sense.			
SS1 Relate the number of days to a week and the number of months to a year in a problem-solving context. **N3** Describe order or relative position using ordinal numbers (up to tenth)	**Below Grade: Intervention** 5: Months of the Year 6: Telling Time **On Grade: Teacher Cards** 13: Days and Weeks (SS1, N3) 14: Months in a Year (SS1, N3) 15: Measuring Time 16: Time to the Quarter-Hour 17: Changes in Temperature 18: Time and Temperature Consolidation **On Grade: Math Every Day** **Card 3A:** Hula Hoop Clock Calendar Questions (SS1, 2N3) **Card 3B:** Monthly Mix-Up (SS1, N3) Thermometer Drop or Pop	**On Grade:** • Getting Ready for School (Activities 15, 18) **Above Grade:** • Goat Island (Activities 14, 15, 17, 18)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Understanding Relationships Among Measurement Units** - Understands relationship of units of length (mm, cm, m), mass (g, kg), capacity (mL, L), and time (e.g., seconds, minutes, hours). (Activities 13, 14, 18; MED 3A: 2, MED 3B: 1) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Explores measurement of visible attributes (e.g., length, capacity, area) and non-visible attributes (e.g., mass, time, temperature). (Activities 15, 16, 17, 18; MED 3A: 1; MED 3B: 2) **Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequence forward through the teen numbers. (Activities 13, 14, 15, 18; MED 3A: 2; MED 3B: 1) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 16, 18; MED 3A: 1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities** - Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). (Activities 13, 14, 18; MED 3A: 2; MED 3B: 1)

Curriculum Correlation
Measurement Cluster 3: Time

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Use direct or indirect measurement to solve problems. **Cross Strand** Number: Develop number sense.			
2.SS.1 Relate the number of days to a week and the number of months to a year in a problem-solving context. **2.N.3** Describe order or relative position using ordinal numbers.	**Below Grade: Intervention** 5: Months of the Year 6: Telling Time **On Grade: Teacher Cards** 13: Days and Weeks (2.SS.1, 2.N.3) 14: Months in a Year (2.SS.1, 2.N.3) 15: Measuring Time 16: Time to the Quarter-Hour 17: Changes in Temperature 18: Time and Temperature Consolidation **On Grade: Math Every Day Card 3A:** Hula Hoop Clock Calendar Questions (2.SS.1, 2.N.3) **Card 3B:** Monthly Mix-Up (2.SS.1, 2.N.3) Thermometer Drop or Pop	**On Grade:** • Getting Ready for School (Activities 15, 18) **Above Grade:** • Goat Island (Activities 14, 15, 17, 18)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Understanding Relationships Among Measurement Units** - Understands relationship of units of length (mm, cm, m), mass (g, kg), capacity (mL, L), and time (e.g., seconds, minutes, hours). (Activities 13, 14, 18; MED 3A: 2, MED 3B: 1) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Explores measurement of visible attributes (e.g., length, capacity, area) and non-visible attributes (e.g., mass, time, temperature). (Activities 15, 16, 17, 18; MED 3A: 1; MED 3B: 2) **Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequence forward through the teen numbers. (Activities 13, 14, 15, 18; MED 3A: 2; MED 3B: 1) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 16, 18; MED 3A: 1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities** - Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). (Activities 13, 14, 18; MED 3A: 2; MED 3B: 1)

Curriculum Correlation
Measurement Cluster 3: Time

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Measurement: Students will be expected to use direct and indirect measure to solve problems. **Cross Strand** Number: Students will be expected to develop number sense.			

M01 Students will be expected to demonstrate an understanding of the calendar and the relationships among days, weeks, months, and years.
 	
N03 Students will be expected to describe order or relative position using ordinal numbers (up to tenth).
	Below Grade: Intervention
	5: Months of the Year
	6: Telling Time
	
	On Grade: Teacher Cards
	13: Days and Weeks
	   (M01, N03)
	14: Months in a Year
	   (M01, N03)
	15: Measuring Time
	16: Time to the Quarter-Hour
	17: Changes in Temperature
	18: Time and Temperature
	   Consolidation
	
	On Grade: Math Every Day Card 3A:
	Hula Hoop Clock
	Calendar Questions (M01, N03)
	Card 3B:
	Monthly Mix-Up (M01, N03)
	Thermometer Drop or Pop
		On Grade:
		• Getting Ready for School
		  (Activities 15, 18)
		
		Above Grade:
		• Goat Island
		  (Activities 14, 15, 17, 18)
			Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.
			Understanding Relationships Among Measurement Units
			- Understands relationship of units of length (mm, cm, m), mass (g, kg), capacity (mL, L), and time (e.g., seconds, minutes, hours). (Activities 13, 14, 18; MED 3A: 2, MED 3B: 1)
			Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.
			Understanding Attributes That Can Be Measured
			- Explores measurement of visible attributes (e.g., length, capacity, area) and non-visible attributes (e.g., mass, time, temperature). (Activities 15, 16, 17, 18; MED 3A: 1; MED 3B: 2)
			Big Idea: Numbers tell us how many and how much.
			Applying the Principles of Counting
			- Says the number name sequence forward through the teen numbers. (Activities 13, 14, 15, 18; MED 3A: 2; MED 3B: 1)
			- Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 16, 18; MED 3A: 1)
			Big Idea: Numbers are related in many ways.
			Comparing and Ordering Quantities
			- Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). (Activities 13, 14, 18; MED 3A: 2; MED 3B: 1)

Curriculum Correlation
Measurement Cluster 3: Time

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Use direct and indirect measurement to solve problems. **Cross Strand** Number: Develop number sense.			
Shape and Space **1.** Relate the number of days to a week and the number of months to a year in a problem-solving context. **Number** **3.** Describe order or relative position, using ordinal numbers (up to tenth)	**Below Grade: Intervention** 5: Months of the Year 6: Telling Time **On Grade: Teacher Cards** 13: Days and Weeks (SS1, N3) 14: Months in a Year (SS1, N3) 15: Measuring Time 16: Time to the Quarter-Hour 17: Changes in Temperature 18: Time and Temperature Consolidation **On Grade: Math Every Day** **Card 3A:** Hula Hoop Clock Calendar Questions (SS1, N3) **Card 3B:** Monthly Mix-Up (SS1, N3) Thermometer Drop or Pop	**On Grade:** • Getting Ready for School (Activities 15, 18) **Above Grade:** • Goat Island (Activities 14, 15, 17, 18)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.** **Understanding Relationships Among Measurement Units** - Understands relationship of units of length (mm, cm, m), mass (g, kg), capacity (mL, L), and time (e.g., seconds, minutes, hours). (Activities 13, 14, 18; MED 3A: 2, MED 3B: 1) **Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.** **Understanding Attributes That Can Be Measured** - Explores measurement of visible attributes (e.g., length, capacity, area) and non-visible attributes (e.g., mass, time, temperature). (Activities 15, 16, 17, 18; MED 3A: 1; MED 3B: 2) **Big Idea: Numbers tell us how many and how much.** **Applying the Principles of Counting** - Says the number name sequence forward through the teen numbers. (Activities 13, 14, 15, 18; MED 3A: 2; MED 3B: 1) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 16, 18; MED 3A: 1) **Big Idea: Numbers are related in many ways.** **Comparing and Ordering Quantities** - Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). (Activities 13, 14, 18; MED 3A: 2; MED 3B: 1)

Curriculum Correlation
Measurement Cluster 3: Time

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Number Sense, Mathematics as a Human Endeavour **Cross Strand:** Number			
Note: Teacher Cards 13 and 14 are not required by your curriculum. However, they are recommended to help prepare students for the work they will do with the passage of time in Grade 3.	**Below Grade: Intervention** 5: Months of the Year 6: Telling Time **On Grade: Teacher Cards** 13: Days and Weeks 14: Months in a Year 15: Measuring Time 16: Time to the Quarter-Hour 17: Changes in Temperature 18: Time and Temperature Consolidation **On Grade: Math Every Day Card 3A:** Hula Hoop Clock Calendar Questions **Card 3B:** Monthly Mix-Up Thermometer Drop or Pop	**On Grade:** • Getting Ready for School (Activities 15, 18) **Above Grade:** • Goat Island (Activities 14, 15, 17, 18)	**Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.**
			Understanding Relationships Among Measurement Units - Understands relationship of units of length (mm, cm, m), mass (g, kg), capacity (mL, L), and time (e.g., seconds, minutes, hours). (Activities 13, 14, 18; MED 3A: 2, MED 3B: 1)
			Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.
			Understanding Attributes That Can Be Measured - Explores measurement of visible attributes (e.g., length, capacity, area) and non-visible attributes (e.g., mass, time, temperature). (Activities 15, 16, 17, 18; MED 3A: 1; MED 3B: 2)
			Big Idea: Numbers tell us how many and how much.
			Applying the Principles of Counting - Says the number name sequence forward through the teen numbers. (Activities 13, 14, 15, 18; MED 3A: 2; MED 3B: 1) - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. (Activities 16, 18; MED 3A: 1)
			Big Idea: Numbers are related in many ways.
			Comparing and Ordering Quantities - Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). (Activities 13, 14, 18; MED 3A: 2; MED 3B: 1)

Name_____ Date _____

How to Make a Pendulum

Materials (per student)
- Length of string/yarn (about 40 cm)
- 4 pony beads
- Tape

Note: Give each student a length of string taped at one end (makes it easier to put the beads on)

Instructions
Put four beads of different colours on the string. Move them to the middle of the string.
- Thread the string back through all four beads to make a circle. (See pictures).
- Pull each end of the string.
- Tie a knot to secure the beads.
- Tie the two ends of the string together (optional).

How to Make a Pendulum

Name_____ Date _____
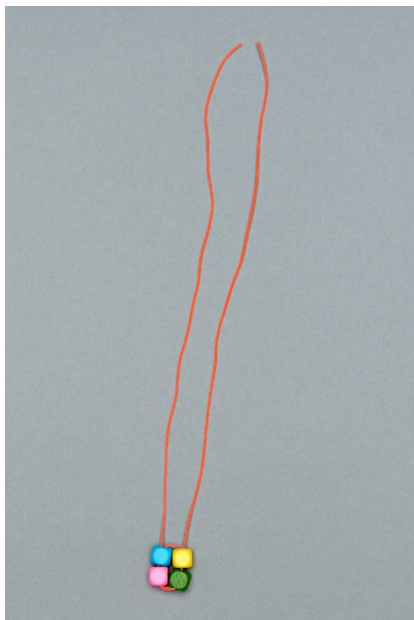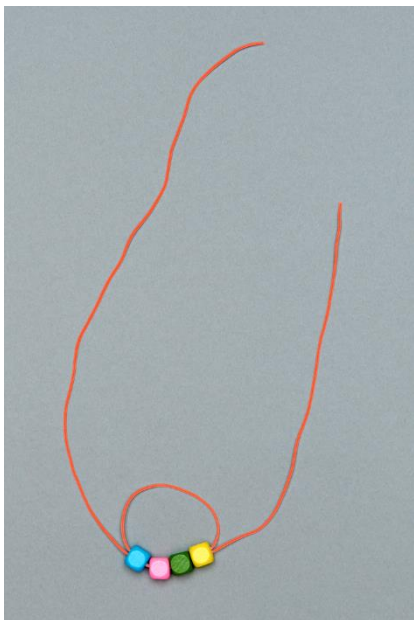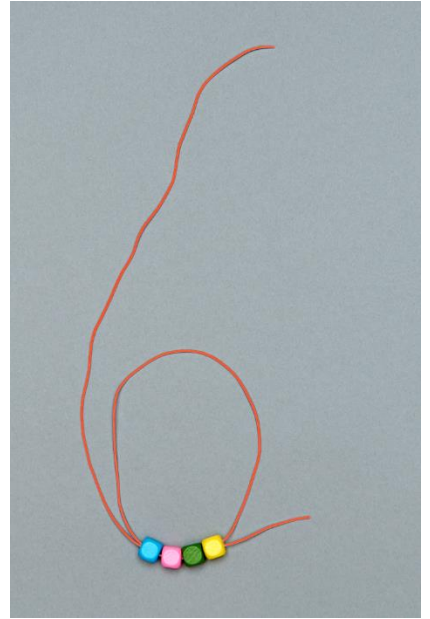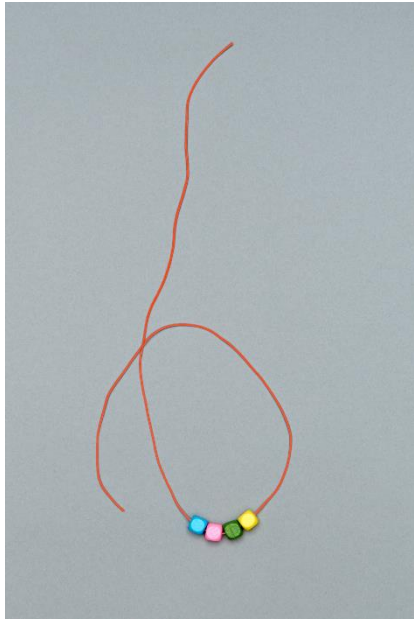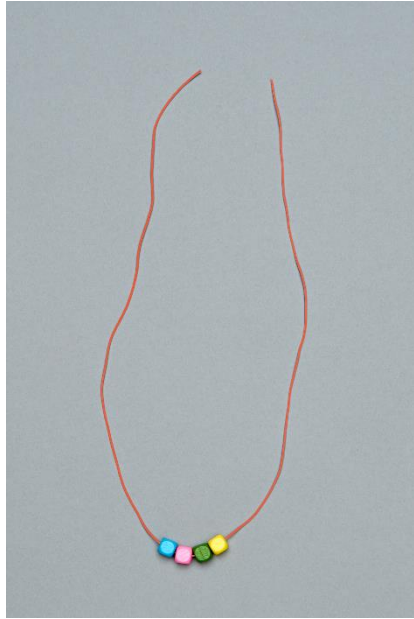
Pendulum Activity Cards

Tie your shoes.	Draw a tree.	Get a drink.
Number of swings:	Number of swings:	Number of swings:
_____	_____	_____
Do 5 jumping jacks.	Write your name.	Take your shoes off and then put them on.
Number of swings:	Number of swings:	Number of swings:
_____	_____	_____
Say the alphabet.	Draw a self-portrait.	Make a tower of 10 linking cubes.
Number of swings:	Number of swings:	Number of swings:
_____	_____	_____

Master 26: Activity 10 Assessment
Measuring Time

Measuring Time Intervals Behaviours/Strategies		
1. Student explores measurement of non-visible attributes (time), but starts the pendulum before or after partner starts the activity.	2. Student starts the pendulum, but struggles to say the number name sequence starting with 1 and counting forward. "1, 2, 3, 5, 6, 8, 9"	3. Student explores measurement of non-visible attributes (time), but when counting pendulum swings, loses track of the count. "I forget what swing I am at."
Observations/Documentation		
4. Student explores measurement of non-visible attributes (time), but thinks the time it takes to do an activity should be the same for everyone. "It took 8 swings for me to do the activity. It should take everyone 8 swings."	5. Student explores measurement of non-visible attributes (time), but struggles to determine which activity took the longest. "8 swings, 15 swings, 12 swings, 14 swings, 20 swings, 11 swings. How do I know which activity took the longest?"	6. Student successfully explores measurement of non-visible attributes (time) and determines which activity took the longest.
Observations/Documentation		
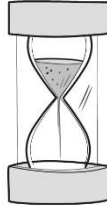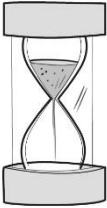
Master 27: Activity 11 Assessment
Measuring the Passage of Time

Measuring and Describing Time Behaviours/Strategies		
1. Student uses non-standard units to measure passage of time, but doesn't see them as benchmarks for lengths of time (e.g., 1 minute, 1 hour). **"I used a sand timer and in one flip, I did 30 jumping jacks."**	2. Student uses benchmarks to estimate and measure time, but has difficulty measuring time with standard units. **"Two episodes of my favourite TV show take 1 hour."**	3. Student uses standard units to measure passage of time, but has difficulty selecting the appropriate unit to measure different events.
Observations/Documentation		
4. Student selects and uses appropriate standard unit to measure time, but has difficulty measuring time. **"I would measure a school day in hours and the time it takes to walk to the library in minutes. But I don't know how to start."**	5. Student selects and uses appropriate standard units to measure time, but thinks that times with larger numbers are longer than those with smaller numbers. **"58 seconds. That's longer than 1 minute."**	6. Student selects and uses appropriate standard units to measure time and understands relationships among time units.
Observations/Documentation		

Name_____ Date _____

	less than 1 swing	1 second	10 flips
1 and one half minutes	2 hours	15 minutes	7 days
3 swings	3 hours	1 day	90 flips
1 minute	60 flips	1 hour	2 days
10 seconds	1 swing	30 minutes	2 minutes
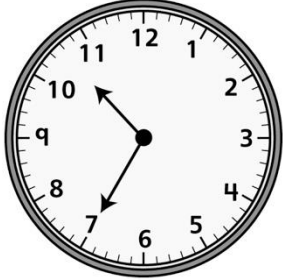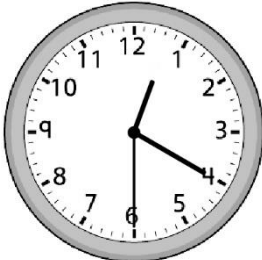
Name_____ Date _____

Time Game Board
(for *Accommodations*)

	1 hour	1 second	 10 flips
10 seconds	2 hours	1 hour	2 days
1 minute	 1 swing	1 day	2 minutes

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Name_____ Date _____

Time Game Board
(for *Combined Grades Extension*)

			6:20:05
2:55			

Name_____ Date _____
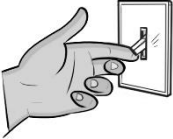
Time Game Cards

Snap your fingers	Clap your hands	Blink	Do 10 jumping jacks
Sing *O Canada*	Watch a movie	Recess	Spring Break
Listen to your favourite song	Go skateboarding	Valentine's Day	Make cookies
Check the weather	Play a video game	Lunchtime	The Weekend
Write your name	Flip a light switch	Build a snow fort	Brush your teeth

Name_____ Date _____

Time Game Cards
(for *Accommodations*)

Snap your fingers	Play a video game	Blink	Do 10 jumping jacks
Write your name	Watch a movie	Lunchtime	The Weekend
Wed Thu Fri Sat Check the weather	Flip a light switch	Valentine's Day	Brush your teeth

Master 29c

Time **Game Cards**
(for *Combined Grades Extension*)

10:35			6:20:05
2:55			
		12:20:30	

Master 30: Activity 12 Assessment
Time: Consolidation

Time Measurement Behaviours/Strategies			
1. Student chooses a card, but struggles to select an appropriate unit of time to describe the duration of the event.	2. Student chooses a card and selects an appropriate unit of time to describe the duration of the event, but is uncertain the unit is correct. **"I think it's minutes, but I'm not sure."**	3. Student chooses a card and selects an appropriate unit of time to describe the duration of the event, but struggles to find an exact match for the length of time on the game board. **"I know it's seconds, but I don't know how many."**	4. Student selects and uses appropriate units of time to describe the duration of events and understands the relationships among units of time.
Observations/Documentation			

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Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **G1 Geometric Properties:** identify two-dimensional shapes and three-dimensional figures and sort and classify them by their geometric properties **Cross Strand:** Patterning and Algebra **Patterns and Relationships:** identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns			
G1.1 distinguish between the attributes of an object that are geometric properties (e.g., number of sides, number of faces) and the attributes that are not geometric properties (e.g., colour, size, texture), using a variety of tools (e.g., attribute blocks, geometric solids, connecting cubes). **G1.2** identify and describe various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort and classify them by their geometric properties (i.e., number of sides or number of vertices), using concrete materials and pictorial representations. **G1.5** locate the line of symmetry in a two-dimensional shape (e.g., by paper folding; by using a Mira).	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (G1.1, G1.2) 2: Exploring 2-D Shapes (G1.1, G1.2) 3: Constructing 2-D Shapes 4: Symmetry in 2-D Shapes (G1.5) 5: 2-D Shapes Consolidation (G1.1, G1.2, G1.5) **On Grade: Math Every Day Card 1:** Visualizing Shapes (G1.1) Comparing Shapes (G1.1)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Objects and shapes have attributes that can be described, measured, and compared. **Cross Strand:** Patterns and Relations			
G1 Multiple attributes of 2D shapes and 3D objects • **G1.1** sorting 2D shapes and 3D objects using two attributes, and explaining the sorting rule • **G1.2** describing, comparing, and constructing 2D shapes, including triangles, squares, rectangles, circles	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (G1.1) 2: Exploring 2-D Shapes (G1.2) 3: Constructing 2-D Shapes (G1.2) 4: Symmetry in 2-D Shapes 5: 2-D Shapes Consolidation (G1.1, G1.2) **On Grade: Math Every Day Card 1:** Visualizing Shapes (G1.2) Comparing Shapes (G1.2)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Describe 3-D objects and 2-D shapes, and analyze the relationships **Cross Strand:** Patterns and Relations			
SS6 Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule. **SS8** Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles.	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (SS6, SS8) 2: Exploring 2-D Shapes (SS8) 3: Constructing 2-D Shapes (SS8) 4: Symmetry in 2-D Shapes 5: 2-D Shapes Consolidation (SS8) **On Grade: Math Every Day Card 1:** Visualizing Shapes (SS8) Comparing Shapes (SS8)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them. **Cross Strand:** Patterns and Relations			
2.SS.6 Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule. **2.SS.8** Describe, compare, and construct 2-D shapes, including: • triangles • squares • rectangles • circles.	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (2.SS.6, 2.SS.8) 2: Exploring 2-D Shapes (2.SS.8) 3: Constructing 2-D Shapes (2.SS.8) 4: Symmetry in 2-D Shapes 5: 2-D Shapes Consolidation (2.SS.8) **On Grade: Math Every Day Card 1:** Visualizing Shapes (2.SS.8) Comparing Shapes (2.SS.8)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

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Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Geometry: Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. **Cross Strand:** Patterns and Relations			
G01 Students will be expected to sort 2-D shapes and 3-D objects using two attributes and explain the sorting rule. **G03** Students will be expected to recognize, name, describe, compare, and build 2-D shapes, including triangles, squares, rectangles, and circles.	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (G01, G03) 2: Exploring 2-D Shapes (G03) 3: Constructing 2-D Shapes (G03) 4: Symmetry in 2-D Shapes 5: 2-D Shapes Consolidation (G03) **On Grade: Math Every Day Card 1:** Visualizing Shapes (G03) Comparing Shapes (G03)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

Alberta/Northwest Territories/Nunavut

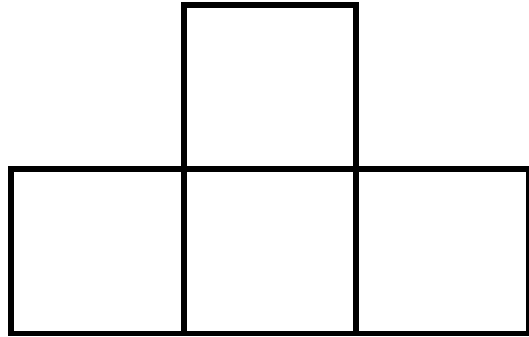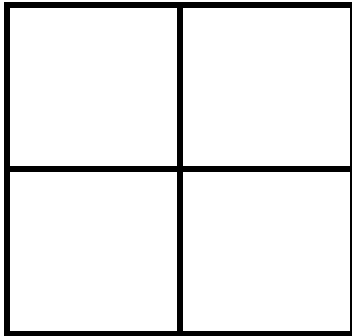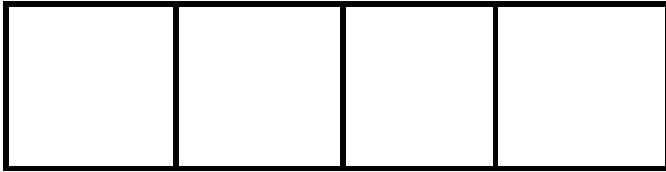| Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them. **Cross Strand:** Patterns and Relations			
Shape and Space **6.** Sort 2-D shapes and 3-D objects, using two attributes, and explain the sorting rule. **8.** Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles. **Patterns and Relations** **3.** Sort a set of objects, using two attributes, and explain the sorting rule.	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (SS6, SS8, PR3) 2: Exploring 2-D Shapes (SS8) 3: Constructing 2-D Shapes (SS8) 4: Symmetry in 2-D Shapes 5: 2-D Shapes Consolidation (SS6, SS8, PR3) **On Grade: Math Every Day Card 1:** Visualizing Shapes (SS8) Comparing Shapes (SS8)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour **Cross Strand:** Patterns and Relations			
Shape and Space **SS2.4** Describe, compare, and construct 2-D shapes, including: • triangles • squares • rectangles • circles. **SS2.5** Demonstrate understanding of the relationship between 2-D shapes and 3-D objects.	**Below Grade: Intervention** 1: Sorting Shapes 2: Analyzing 2-D Shapes **On Grade: Teacher Cards** 1: Sorting 2-D Shapes (SS2.4) 2: Exploring 2-D Shapes (SS2.4) 3: Constructing 2-D Shapes (SS2.4) 4: Symmetry in 2-D Shapes 5: 2-D Shapes Consolidation (SS2.4, SS2.5) **On Grade: Math Every Day Card 1:** Visualizing Shapes (SS2.4) Comparing Shapes (SS2.4)	**Below Grade:** • What Was Here? (Activities 1, 2, 5) • The Tailor Shop (Activities 1, 2, 5) **On Grade:** • I Spy Awesome Buildings (Activities 1, 2, 5) • Sharing Our Stories (Activities 4, 5) **Above Grade:** • Gallery Tour (Activities 4, 5)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes to find the similarities and differences. (Activities 1, 3, 5, MED 1: 2) - Analyzes geometric attributes of 2-D shapes (e.g., number of sides, corners). (Activities 1, 2, 3, 5, MED 1: 1) - Classifies and names 2-D shapes based on common attributes. (Activities 1, 2, 3, 5, MED 1: 1) - Constructs and compares 2-D shapes with given attributes (e.g., number of vertices). (Activity 3) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Identifies line(s) of symmetry on regular 2-D shapes. (Activities 4, 5) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically (e.g., Number of Sides, Shape, Size)** - Identifies the sorting rule used to sort sets. (Activity 5) - Sorts a set of objects based on two attributes. (Activities 1, 5)

Name_____ Date _____

Attribute Cards for Activity 2

Blue	**Yellow**	**Red**
3 sides	**4 sides**	**No sides**
6 sides	**Small**	**Big**
3 vertices	**More than 3 vertices**	**No vertices**

Name_____ Date _____

2 equal (congruent) sides	**4 equal (congruent) sides**	**No equal (congruent) sides**
More than 4 sides	**1 right angle**	**No right angles**
4 right angles	**3 interior angles**	**4 interior angles**
More than 4 interior angles	**1 line of symmetry**	**2 lines of symmetry**

Master 3: Activity 1 Assessment
Sorting 2-D Shapes

Sorting Shapes Using Two Attributes Behaviours/Strategies		
1. Student chooses a block, but struggles to analyze the attributes of the block. "It's flat."	2. Student analyzes the attributes of the blocks, but is unable to name the shape. "It has 4 sides, 4 vertices, and it is red. I forget what it is called."	3. Student analyzes the attributes of the blocks, but is unable to describe how two shapes are similar/different. "I don't know how they are alike."
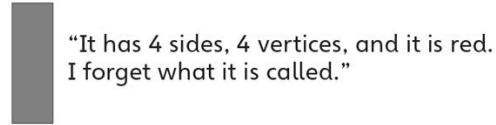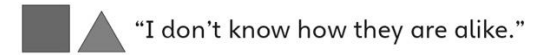
Observations/Documentation		

4. Student sorts the blocks using a single attribute at a time, but is unable to sort using two attributes simultaneously (ignores overlap).	5. Student sorts a set of blocks based on two attributes, but has difficulty describing the sort. "I don't know how to describe it. It looks like this."	6. Student analyzes geometric attributes of shapes, sorts them using two attributes, and uses mathematical language to describe the sort. "The blue triangle is in the overlap because it has both attributes."
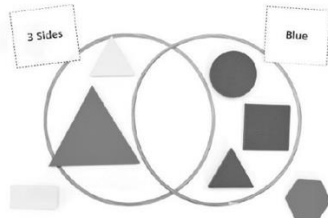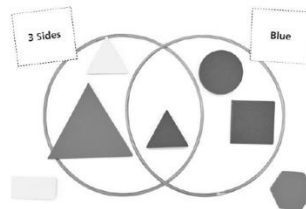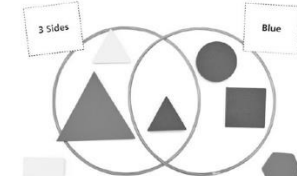
Observations/Documentation		

Name_____ Date _____

2-D Shapes

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

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Name_____ Date _____

2-D Shapes

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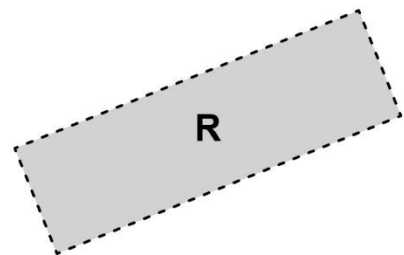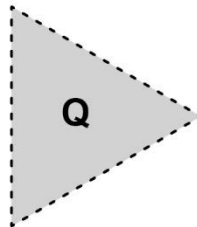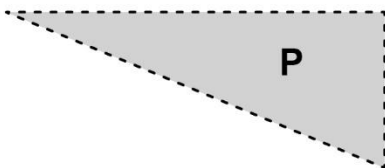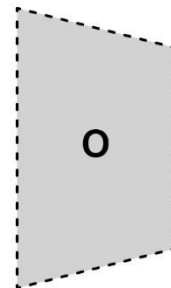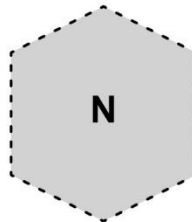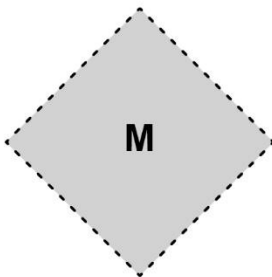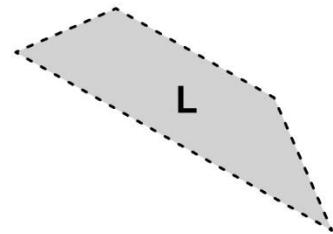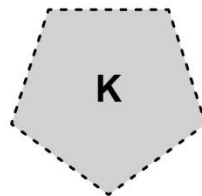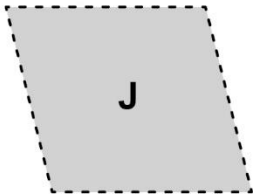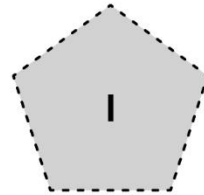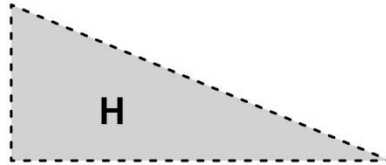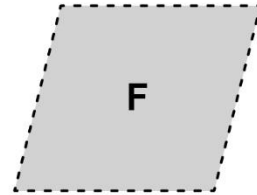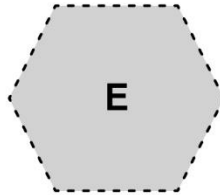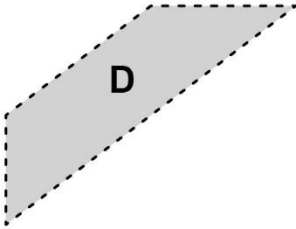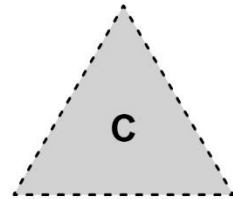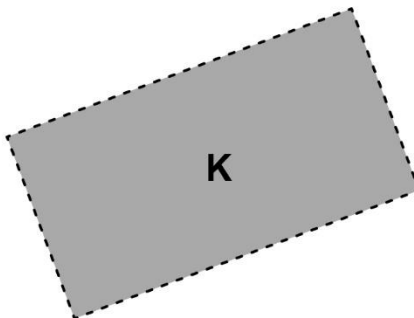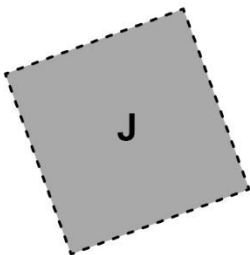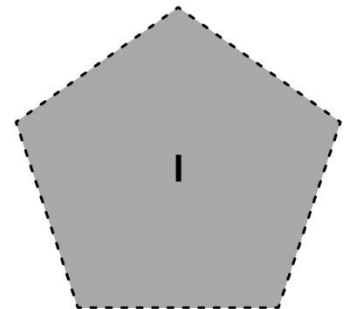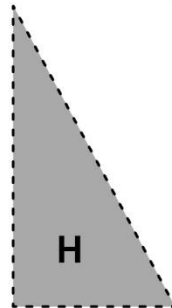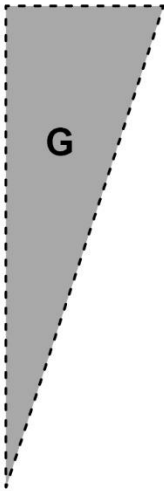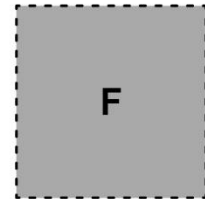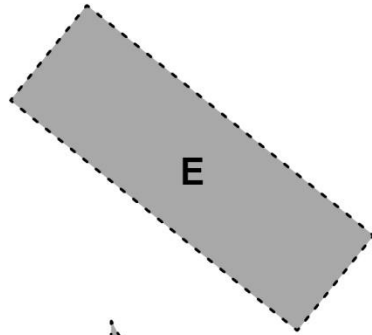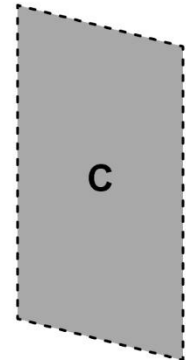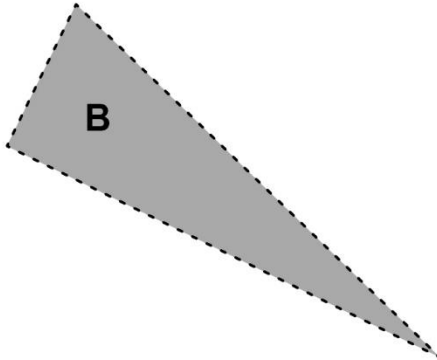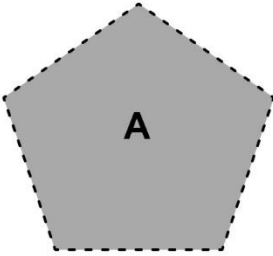
Master 5: Activity 2 Assessment
Congruent 2-D Shapes

Identifying Congruent Lengths, Angles, and 2-D Shapes Behaviours/Strategies

1. Student recognizes and names familiar 2-D shapes, but is unable to match congruent shapes. "This one's a triangle. That one's a square."	2. Student identifies how 2-D shapes are alike and how they are different, but has difficulty determining if the shapes are congruent. "The triangle has 3 sides. The square has 4 sides. Their sides are the same length. I don't know if they're congruent."	3. Student physically matches congruent 2-D shapes by rotating one shape and placing it on top of the other, but cannot explain why the shapes are congruent. "They're the same. They're congruent."
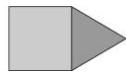
Observations/Documentation

4. Student physically matches congruent 2-D shapes, but has difficulty mentally matching congruent shapes. "I can't tell if they're congruent just by looking."	5. Student mentally matches congruent 2-d shapes, but doesn't identify or describe congruent side lengths and angles. "I just know they're congruent."	6. Student uses mental and physical matching to determine if 2-D shapes are congruent and to identify congruent side lengths and angles. "I visualized the angles and sides all matching, but when I physically matched them, I could see that all angles matched, but only 2 of the sides matched. One is a square and the other a rectangle. They are not congruent."
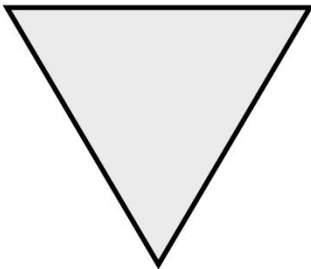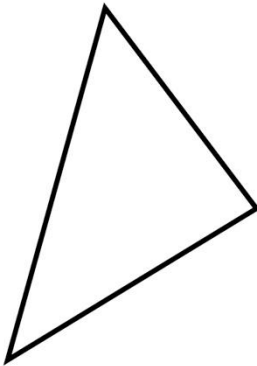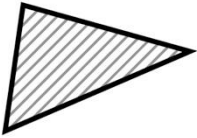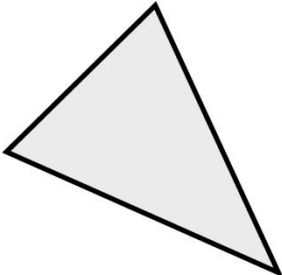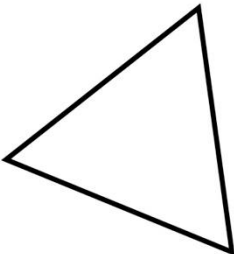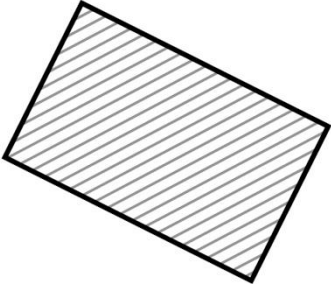
Observations/Documentation

Name_____ Date _____

Shape Cards

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Shape Cards

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Shape Cards

Shape Cards

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Master 7: Activity 3 Assessment
Exploring 2-D Shapes

Analyzing and Identifying 2-D Shapes Behaviours/Strategies

1. Student secretly picks a shape, but struggles to analyze the attributes of the shape and answers questions randomly.	2. Student analyzes attributes of 2-D shapes and answers questions thoughtfully. Partner asks repetitive questions. "Does the shape have 3 sides? Does the shape have 3 vertices?"	3. Student asks questions, but ignores the answers and guesses (unable to identify the 2-D shape).	4. Student asks questions, but they focus on non-geometric attributes (unable to identify the 2-D shape). "Is the shape red?

Observations/Documentation

5. Student asks questions to identify 2-D shapes, but uses non-mathematical language. "Does it have points? Does it look like a hockey card?"	6. Student asks questions to identify 2-D shapes, but questions are asked in a random order (does not appear to have a strategy). "Does it have 3 sides?" *Yes* "Does it have 4 vertices?" *No* "Does it have straight sides?" *No*	7. Student recognizes 2-D shapes, but cannot name some of them. "I don't know what this is called."	8. Student successfully identifies 2-D shapes and names them. "A rectangle"

Name_____ Date _____

Large Shapes (for Before)
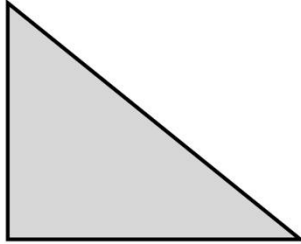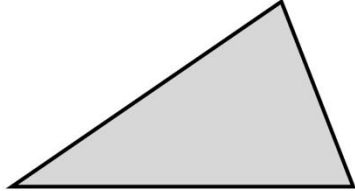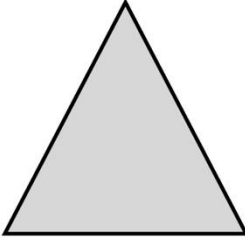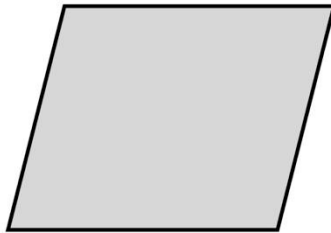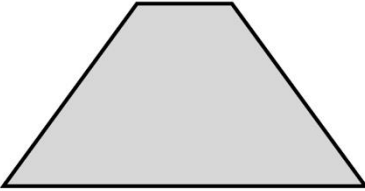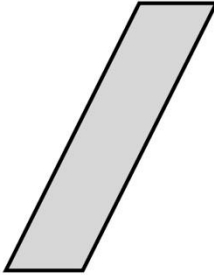
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Large Shapes (for Before)
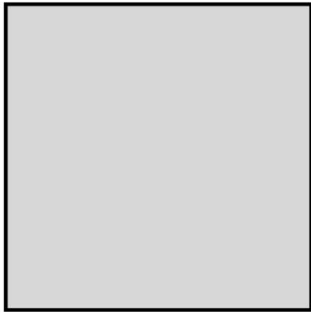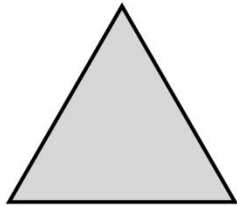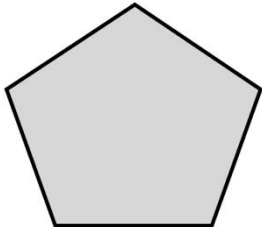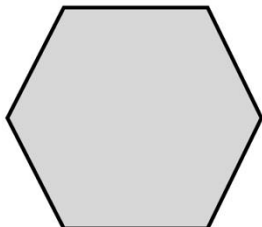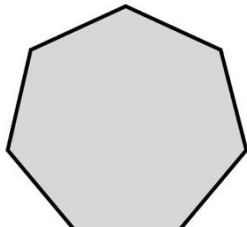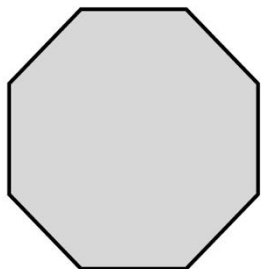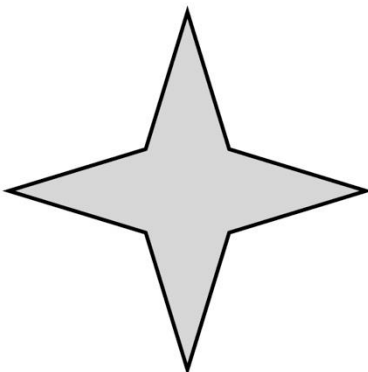
Name_____ Date _____

Symmetry Cards

Master 9b

Symmetry Cards (for Extension)

Name_____ Date _____

Symmetry Sorting Mat

No Lines of Symmetry	One Line of Symmetry	More Than One Line of Symmetry

Master 11: Activity 4 Assessment
Symmetry in 2-D Shapes

Identifying Lines of Symmetry Behaviours/Strategies

1. Student turns over a card, but is unable to identify a line of symmetry on the 2-D shape. "I don't know how to find it."	2. Student identifies and draws what he or she thinks is a line of symmetry, but does not fold the shape to check.	3. Student identifies a line of symmetry, but does not realize that the shape has more than one line of symmetry.
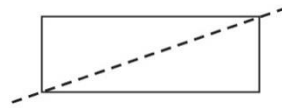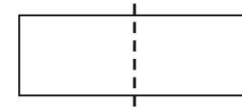
Observations/Documentation

4. Student identifies lines of symmetry on most 2-D shapes, but does not realize that a shape can have no lines of symmetry. "I am having trouble."	5. Student identifies all lines of symmetry on 2-D shapes, but struggles to sort the shapes on the sorting mat. "Where do I put it?"	6. Student successfully identifies all lines of symmetry on 2-D shapes and sorts them on the sorting mat. "The rectangle has more than one line of symmetry."
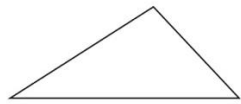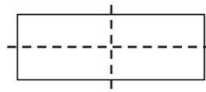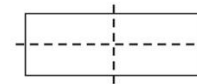
Observations/Documentation

Master 12a   **Consolidation Attribute Cards**

Has 3 sides	Has 0 sides
Has 4 sides	Has 5 sides
Has 6 sides	Has more than 4 sides
Has 3 vertices	Has 4 vertices
Has more than 4 vertices	Has all sides equal

Consolidation Attribute Cards

Has 2 sides equal	**Has no sides equal**
Has 0 lines of symmetry	**Has 1 line of symmetry**
Has 2 lines of symmetry	**Has more than 2 lines of symmetry**
Has no equal angles	**Has 2 equal angles**
Has more than 2 equal angles	

Name_____ Date _____
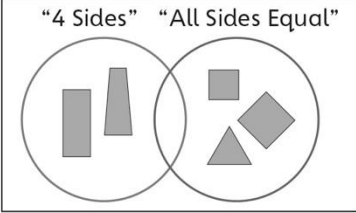
**Consolidation Attribute Cards
(for *Combined Grades Extension*)**

Has no congruent angles	**Has 3 vertices**
Has 2 congruent angles	**Has more than 2 congruent angles**
Has no congruent faces	**Has 2 congruent faces**
Has more than 2 congruent faces	**Has no edges**
Has 6 edges	**Has more than 6 edges**
Has 4 vertices	**Has more than 4 vertices**

Master 13: Activity 5 Assessment
2-D Shapes: Consolidation

Sorting Shapes Using Two Attributes Behaviours/Strategies			
1. Student randomly places shapes without thinking about attributes and is unable to sort set of shapes based on two attributes. "I didn't know where to put the shapes."	2. Student chooses a shape, but is unable to analyze its geometric attributes and is unable to sort shapes based on two attributes. "It's grey and looks like a pizza slice."	3. Student sorts some shapes based on two attributes, but struggles when orientation or shapes are unfamiliar. "This shape doesn't have 4 sides."	4. Student sorts a set of shapes based on single attributes, but struggles to sort using both attributes simultaneously (ignores overlap). "4 Sides" "All Sides Equal"
Observations/Documentation			
5. Student sorts a set of shapes based on two attributes, but struggles to explain why the shapes were placed where they were. "I just know they go where I put them."	6. Student sorts a set of shapes based on two attributes, but struggles to identify the sorting rules used to sort the shapes. "I don't know what attributes they used."	7. Student sorts a set of shapes based on two attributes and identifies the sorting rules in given sorts, but has difficulty communicating them. "I can't explain it."	8. Student sorts a set of shapes based on two attributes and identifies and describes the sorting rules in given sorts.

Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **G1 Geometric Properties:** identify two-dimensional shapes and three-dimensional figures and sort and classify them by their geometric properties **G2 Geometric Relationships:** compose and decompose two-dimensional shapes and three-dimensional figures **G3 Location and Movement:** describe and represent the relative locations of objects, and represent objects on a map.			
G1.3 identify and describe various three-dimensional figures (i.e., cubes, prisms, pyramids) and sort and classify them by their geometric properties (i.e., number and shape of faces), using concrete materials. **G1.4** create models and skeletons of prisms and pyramids, using concrete materials (e.g., cardboard; straws and modelling clay), and describe their geometric properties (i.e., number and shape of faces, number of edges). **G2.1** compose and describe pictures, designs, and patterns by combining two-dimensional shapes. **G2.2** compose and decompose two-dimensional shapes.	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes (G2.2, G2.3) 12: Building with Solids (G2.4) 13: Visualizing Shapes and Solids (G1.4) 14: Creating Pictures and Designs (G2.1) 15: Covering Outlines (G2.3) 16: Creating Symmetrical Designs (G3.3) 17: Geometric Relationships: Consolidation (G1.4, G2.1, G2.2, G2.3, G2.4, G3.3) **On Grade: Math Every Day Card 3A:** Fill Me In! (G2.3) Make Me a Picture (G2.1) **Card 3B:** Name the Solid (G1.3) Draw the Shape (G2.1)	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

Ontario (continued)

G2.3 cover an outline puzzle with two-dimensional shapes in more than one way. **G2.4** build a structure using three-dimensional figures, and describe the two-dimensional shapes and three-dimensional figures in the structure. **G3.3** create and describe symmetrical designs using a variety of tools (e.g., pattern blocks, tangrams, paper and pencil).			

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Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Objects and shapes have attributes that can be described, measured, and compared.			
G1 Multiple attributes of 2D shapes and 3D objects • **G1.2** describing, comparing, and constructing 2D shapes, including triangles, squares, rectangles, circles • **G1.3** identifying 2D shapes as part of 3D objects	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes 12: Building with Solids 13: Visualizing Shapes and Solids (G1.2) 14: Creating Pictures and Designs 15: Covering Outlines 16: Creating Symmetrical Designs 17: Geometric Relationships: Consolidation **On Grade: Math Every Day Card 3A:** Fill Me In! Make Me a Picture **Card 3B:** Name the Solid (G1.3) Draw the Shape	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Describe 3-D objects and 2-D shapes, and analyze the relationships.			
SS7 Describe, compare and construct 3-D objects, including: • cubes • spheres • cones • cylinders • pyramids. **SS8** Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles. **SS9** Identify 2-D shapes as parts of 3-D objects in the environment	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes 12: Building with Solids (SS9) 13: Visualizing Shapes and Solids (SS7, SS8) 14: Creating Pictures and Designs 15: Covering Outlines 16: Creating Symmetrical Designs 17: Geometric Relationships: Consolidation **On Grade: Math Every Day Card 3A:** Fill Me In! Make Me a Picture **Card 3B:** Name the Solid (SS7) Draw the Shape (SS8)	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Shape and Space: Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.			
2.SS.7 Describe, compare, and construct 3-D objects, including • cubes • spheres • cones • cylinders • prisms • pyramids. **2.SS.8** Describe, compare, and construct 2-D shapes, including • triangles • squares • rectangles • circles. **2.SS.9** Identify 2-D shapes as parts of 3-D objects in the environment.	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes 12: Building with Solids (2.SS.9) 13: Visualizing Shapes and Solids (2.SS.7, 2.SS.8) 14: Creating Pictures and Designs 15: Covering Outlines 16: Creating Symmetrical Designs 17: Geometric Relationships: Consolidation **On Grade: Math Every Day Card 3A:** Fill Me In! Make Me a Picture **Card 3B:** Name the Solid (2.SS.7) Draw the Shape (2.SS.8)	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them.			
G02 Students will be expected to recognize, name, describe, compare, and build 3-D objects, including cubes and other prisms, spheres, cones, cylinders, and pyramids. **G03** Students will be expected to recognize, name, describe, compare and build 2-D shapes, including triangles, squares, rectangles, and circles. **G04** Students will be expected to identify 2-D shapes as part of 3-D objects in the environment.	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes 12: Building with Solids (G04) 13: Visualizing Shapes and Solids (G02, G03) 14: Creating Pictures and Designs 15: Covering Outlines 16: Creating Symmetrical Designs 17: Geometric Relationships: Consolidation **On Grade: Math Every Day Card 3A:** Fill Me In! Make Me a Picture **Card 3B:** Name the Solid (G02) Draw the Shape (G03)	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.			
Shape and Space **7.** Describe, compare and construct 3-D objects, including: • cubes • spheres • cones • cylinders • pyramids. **8.** Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles. **9.** Identify 2-D shapes as parts of 3-D objects in the environment.	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes 12: Building with Solids (SS9) 13: Visualizing Shapes and Solids (SS7, SS8) 14: Creating Pictures and Designs 15: Covering Outlines 16: Creating Symmetrical Designs 17: Geometric Relationships: Consolidation **On Grade: Math Every Day Card 3A:** Fill Me In! Make Me a Picture **Card 3B:** Name the Solid (SS7) Draw the Shape (SS8)	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

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Curriculum Correlation
Geometry Cluster 2: Geometric Relationships

Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour			
Shape and Space **SS2.3** Describe, compare, and construct 3-D objects, including: • cubes • spheres • cones • cylinders • pyramids. **SS2.4** Describe, compare, and construct 2-D shapes, including: • triangles • squares • rectangles • circles. **SS2.5** Demonstrate understanding of the relationship between 2-D shapes and 3-D objects.	**Below Grade: Intervention** 5: Covering Outlines 6: Describing Solids **On Grade: Teacher Cards** 11: Making Shapes (SS2.4) 12: Building with Solids (SS2.3) 13: Visualizing Shapes and Solids (SS2.3, SS2.4, SS2.5) 14: Creating Pictures and Designs 15: Covering Outlines 16: Creating Symmetrical Designs 17: Geometric Relationships: Consolidation **On Grade: Math Every Day Card 3A:** Fill Me In! Make Me a Picture **Card 3B:** Name the Solid (SS2.3, SS2.5) Draw the Shape (SS2.4)	**Below Grade:** • The Tailor Shop (Activities 14, 17) **On Grade:** • I Spy Awesome Buildings (Activities 12, 17) • Sharing Our Stories (Activities 14, 17) **Above Grade:** • Gallery Tour (Activities 16, 17)	**Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.** **Investigating Geometric Attributes and Properties of 2-D Shapes and 3-D Solids** - Compares 2-D shapes and 3-D solids to find the similarities and differences. (Activity 12) - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). (Activities 12, 13, 14, 17; MED 3B: 1) **Investigating 2-D Shapes, 3-D Solids, and their Attributes Through Composition and Decomposition** - Constructs composite pictures or structures with 2-D shapes and 3-D solids. (Activities 12, 14, 17; MED 3A: 2) - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. (Activities 11, 17) - Completes a picture outline with shapes in more than one way. (Activities 15, 17; MED 3A: 1) - Constructs composite 2-D shapes and 3-D solids from verbal instructions, visualization, and memory. (Activity 13; MED 3B: 2) **Big Idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** **Exploring Symmetry to Analyze 2-D Shapes and 3-D Solids** - Constructs and completes 2-D/3-D symmetrical designs. (Activities 16, 17)

Name_____ Date _____

Shapes from Squares

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Fill the Hexagons

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Fill the Rectangles

Master 18: Activity 6 Assessment
Making Shapes

Constructing 2-D Shapes from Other Shapes Behaviours/Strategies		
1. Student looks at the outline, but does not know which 2-D shapes to use to construct a composite shape (hexagon).	2. Student places blocks randomly with no thought to the outline to construct a composite shape (hexagon) from other 2-D shapes.	3. Student constructs a composite shape (hexagon) from other 2-D shapes, but leaves gaps or overlaps when using blocks to cover hexagon.

Observations/Documentation

4. Student constructs a composite shape (hexagon) from other 2-D shapes, but cannot construct it in a different way.	5. Student constructs a composite shape (hexagon) from other 2-D shapes, but struggles to describe and identify shapes used. "I used a red, a green, and a blue block."	6. Student constructs a composite shape (hexagon) from other 2-D shapes in different ways and identifies shapes used. "I used a trapezoid, a rhombus, and a triangle."

Observations/Documentation

Name_____ Date _____
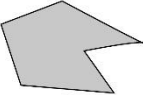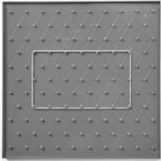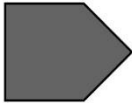
Geoboard Shapes

Master 20: Activity 7 Assessment
Visualizing Shapes

Describing Attributes of Shapes Behaviours/Strategies

1. Student chooses a shape, but has difficulty analyzing it and describing its attributes.	2. Student analyzes geometric attributes of a shape, but uses non-math language to describe it. "It looks like a bird's beak."	3. Student analyzes geometric attributes of a shape, but gives a general description. "It has sides and vertices."	4. Student successfully analyzes geometric attributes of 2-D shapes and uses math language to describe them.

Observations/Documentation

Visualizing and Creating Shapes Behaviours/Strategies

1. Student creates a shape, but guesses and ignores partner's description.	2. Student creates a shape, but focuses on only part of the description and creates incorrect shape.	3. Student creates shapes from description and visualization, but struggles to identify them. "I forget what this is called."	4. Student successfully creates and identifies shapes from description and visualization. "I made a pentagon."

Observations/Documentation

Shape Picture

Shape Design

Name_____ Date _____

Pattern Block Cutouts

Tangram Cutouts

Master 25: Activity 8 Assessment
Creating Pictures and Designs

Making Pictures and Designs with 2-D Shapes Behaviours/Strategies		
1. Student constructs a composite picture/design with 2-D shapes, but shapes do not touch.	2. Student constructs a composite picture with 2-D shapes, but uses only one shape.	3. Student constructs a composite picture with 2-D shapes, but each shape represents a part of an object (shapes are not combined).
Observations/Documentation		
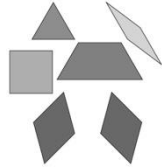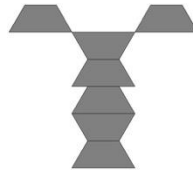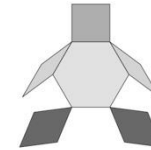
4. Student constructs a composite picture with 2-D shapes and combines shapes to represent parts of the picture, but cannot identify the shapes used. "I used lots of orange and blue blocks."	5. Student constructs a composite picture/design with 2-D shapes, but struggles to explain how it was created.	6. Student successfully constructs a composite picture/design with 2-D shapes, explains how it was created, and identifies shapes used.
Observations/Documentation		
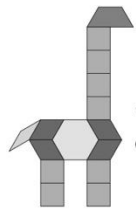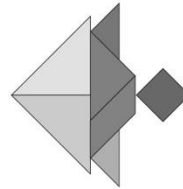
Master 26: Activity 9 Assessment
Covering Outlines

Covering Outlines with 2-D Shapes Behaviours/Strategies

1. Student covers a picture outline with shapes, but places blocks randomly with no thought to outline. 	2. Student covers a picture outline with shapes, but leaves gaps or overlaps. 	3. Student covers a picture outline with shapes, but always tries to place matching blocks in the same relative position. "I don't see a shape that will fit."
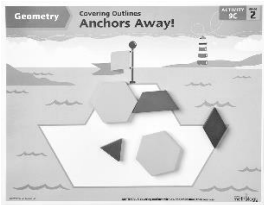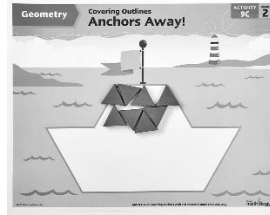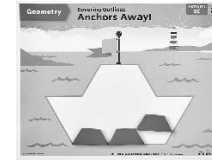
Observations/Documentation

4. Student covers a picture outline with shapes and uses guess and test to fill a space. "Let me try all the blocks to see which one fits."	5. Student successfully completes a picture outline with shapes, but thinks there is only one way to cover it. 	6. Student successfully completes a picture outline with shapes in one way and sees more than one way to cover it.
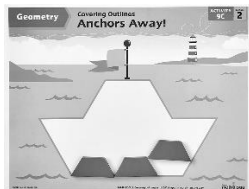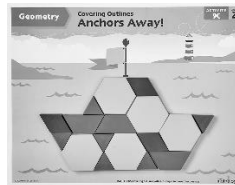
Observations/Documentation

Name_____   Date _____

Task Cards

Note: Task cards are grouped by type. For example, all cards labelled A focus on using shapes to create other shapes.

A.

Use Pattern Blocks to create a hexagon.
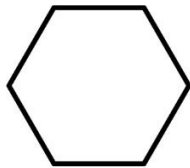
Use 3 yellow blocks and 3 blue blocks.

A.
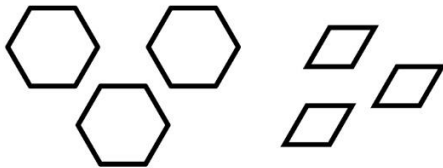
Use Pattern Blocks to create a hexagon.
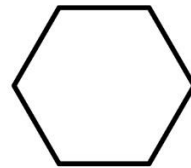
Use 1 yellow block and 6 red blocks.

A.
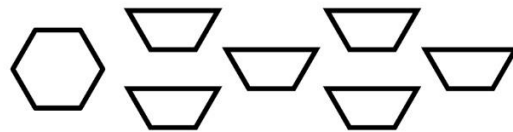
Use Pattern Blocks. Create a triangle in two different ways.

A.
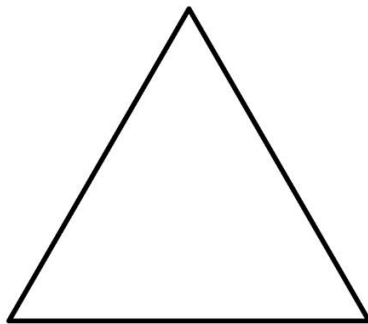
Use Pattern Blocks. Create a hexagon in three different ways.
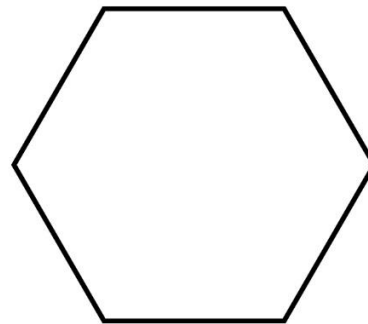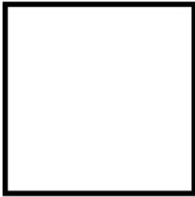
Task Cards

A.

Use 3 Tangram pieces.
Create a rectangle.
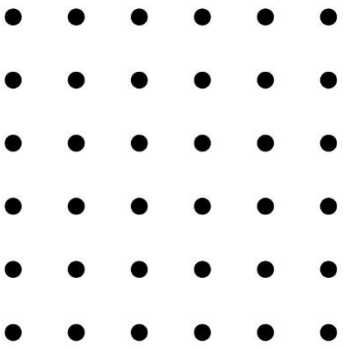
A.

Use Tangram pieces.
Create a square in two
different ways.
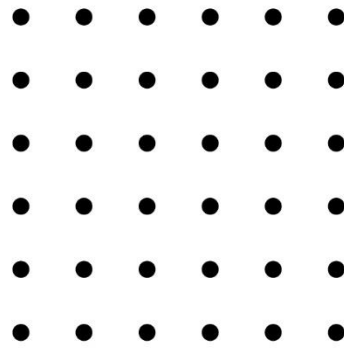
B.

I have 4 vertices and
4 equal sides. Create
me on a geoboard.

B.

I have 3 vertices and
3 sides. Create two of
me on a geoboard.

Task Cards

C.

Use Pattern Blocks.
Fill the outline in two ways.

C.
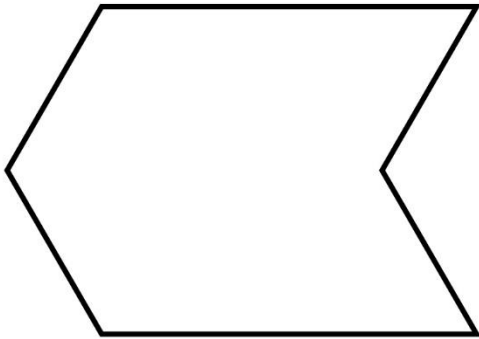
Use Pattern Blocks.
Fill the outline in two ways.

D.

Draw as many lines of
symmetry as you can.

D.

Draw as many lines of
symmetry as you can.

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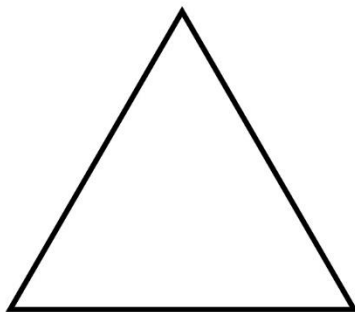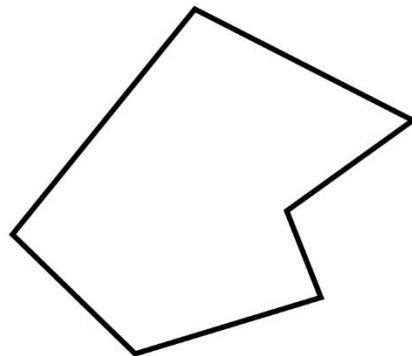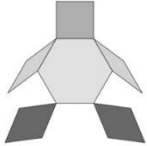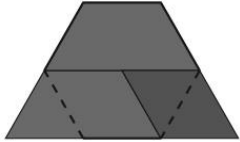
Master 28: Activity 10 Assessment
Geometric Relationships: Consolidation

Geometric Relationship Tasks Behaviours/Strategies		
1. Student uses blocks or pieces, but struggles to construct new 2-D shapes as a composite of other 2-D shapes.	2. Student constructs a composite picture with 2-D shapes, but each shape represents a part of an object (shapes are not combined).	3. Student covers a picture outline with shapes, but picture has gaps or overlaps.
Observations/Documentation		
4. Student covers a picture outline with shapes, but always tries to place matching blocks in the same relative position. "I don't see a shape that will fit."	5. Student constructs a new 2-D shape as a composite of other shapes and covers outlines, but thinks only one way is possible.	6. Student successfully constructs 2-D shapes and composite pictures, and covers outlines in more than one way.

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Curriculum Correlation
Geometry Cluster 3: Location and Movement

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **G3 Location and Movement:** describe and represent the relative locations of objects, and represent objects on a map.			

G3.1 describe the relative locations (e.g., beside, two steps to the right of) and the movements of objects on a map
 	
G3.2 draw simple maps of familiar settings, and describe the relative locations of objects on the maps.
	Below Grade: Intervention
	7: Tower Views
	8: Direction Buddies
	
	On Grade: Teacher Cards
	18: Reading Maps (G3.1)
	19: Drawing a Map (G3.2)
	20: Perspective Taking
	21: Location and Movement:
	    Consolidation (G3.1)
	
	On Grade: Math Every Day Card 4A:
	Our Design (G3.1)
	Treasure Map (G3.1, G3.2)
	
	Card 4B:
	Crazy Creatures
	Perspective Matching Game
		Below Grade:
		• Memory Book
		  (Activities 18, 21)
		
		On Grade:
		• Robo
		  (Activities 18, 21)
			Big Idea: Objects can be located in space and viewed from multiple perspectives.
			Locating and Mapping Objects in Space
			- Uses relative positions to describe the location and order of objects (e.g., between, beside, next, before). (Activities 18, 19, 21; MED 4A: 1)
			- Provides instructions to locate an object in the environment (e.g., listing instructions to find a hidden object in classroom). (Activities 18, 21; ME 4A: 2)
			- Makes simple maps based on familiar settings. (Activity 19)
			Viewing and Representing Objects from Multiple Perspectives
			- Recognizes 3-D solids from multiple perspectives. (MED 4B: 1)
			- Visualizes and describes the view of a 3-D solid from multiple perspectives (e.g., top/front/side views). (Activities 20, 21, MED 4B: 2)

Name_____ Date _____

Classroom Map
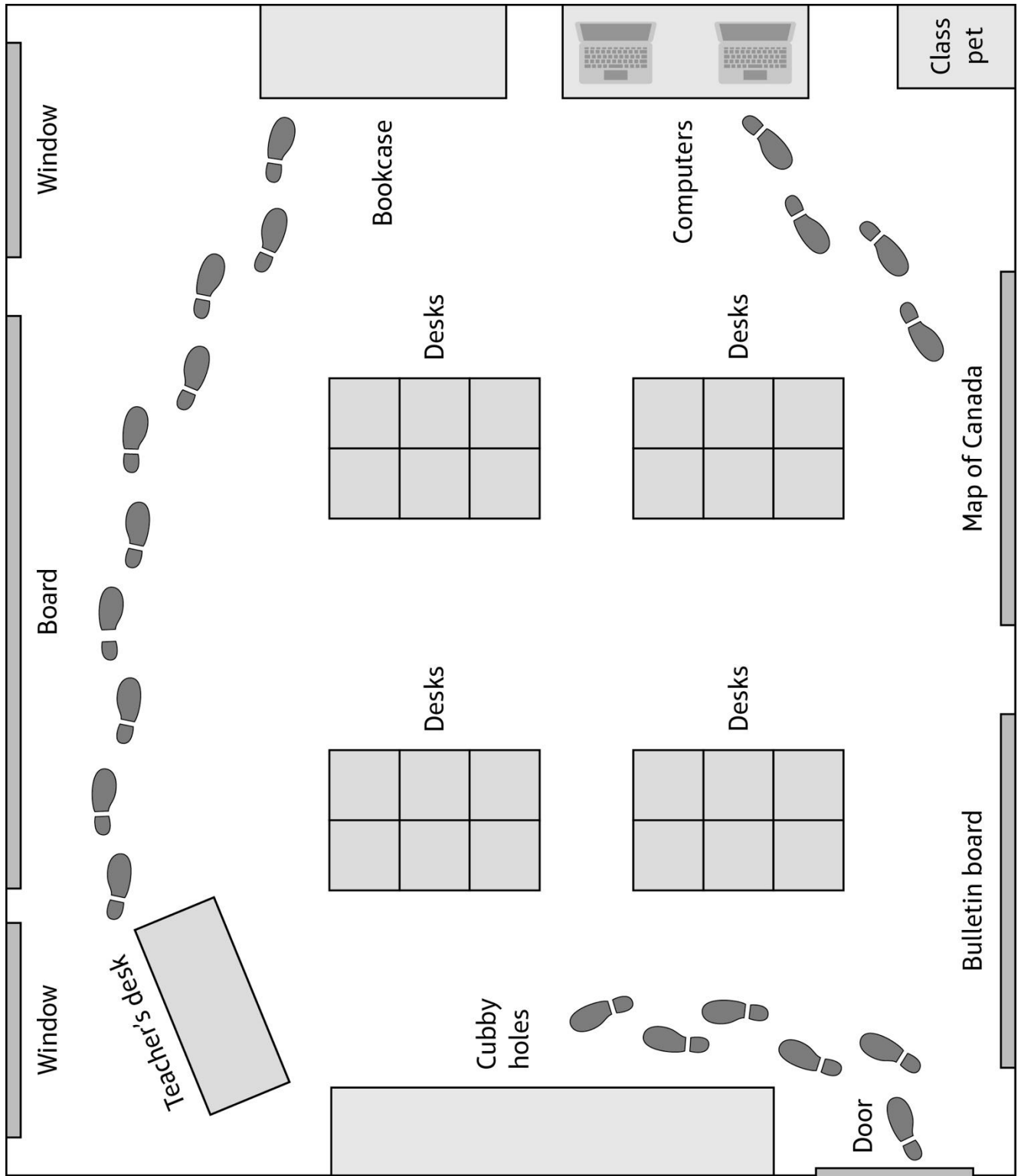
I Spy Cards

I am beside the pool.	I am over the road.
I am in front of a building.	I am between the school and the grass.
I am to the right of the beach chairs.	I am under the bridge.
I am on top of the grass.	I am to the right of the houses.

Path Cards

Start at the pool. How do you get to the grass area?	Start at the school. How do you get to the bridge?
Start at the pool. How do you get to the building on the right?	Start at the bridge. How do you get to the school?
Start at the school. How do you get to the houses?	Start at the pool. How do you get to the school?
Start at the houses. How do you get to the pool?	Start at the grass area. How do you get to the beach chairs?

Master 33a

Maps with Grid

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Maps with Grid

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Name_____ Date _____
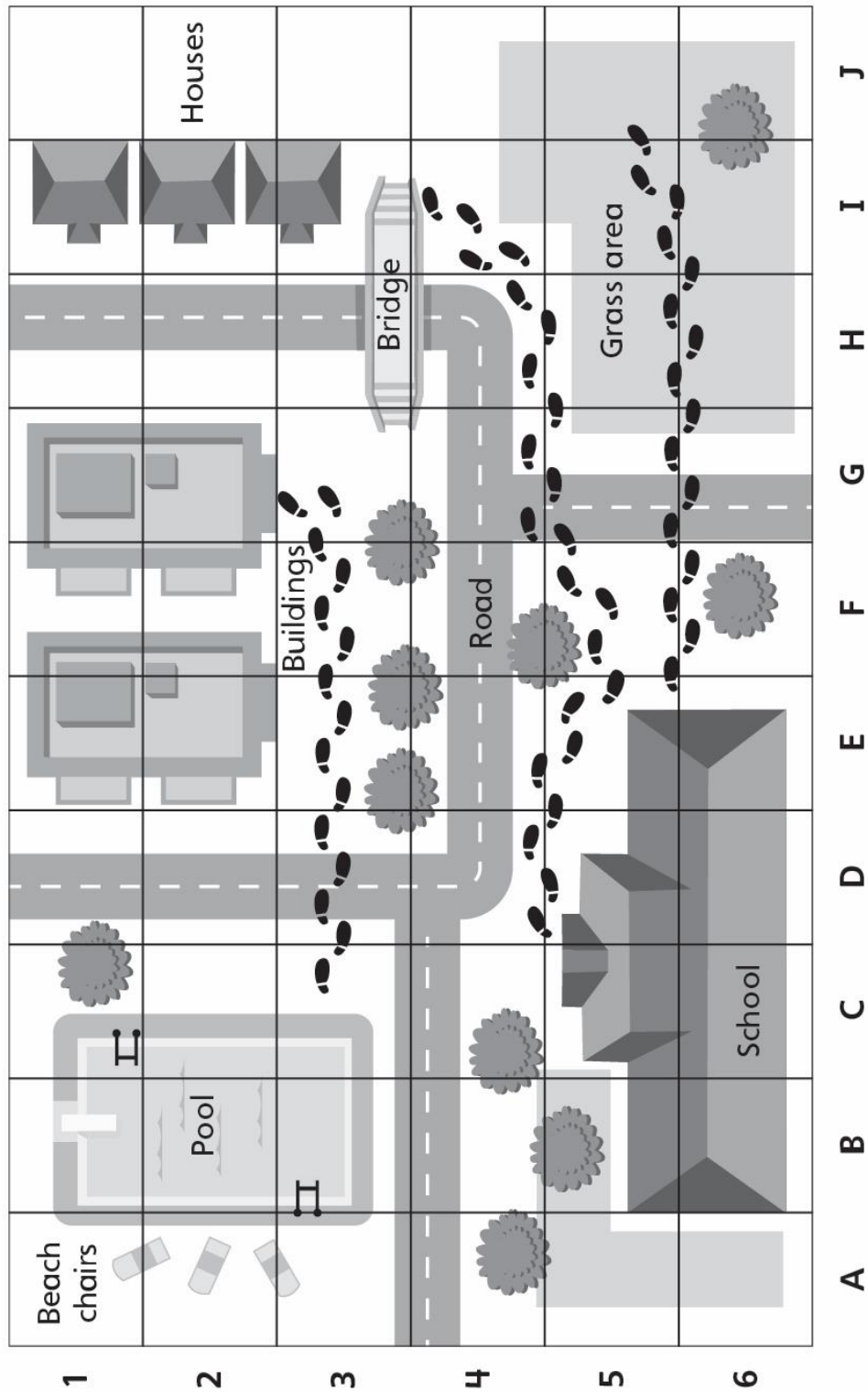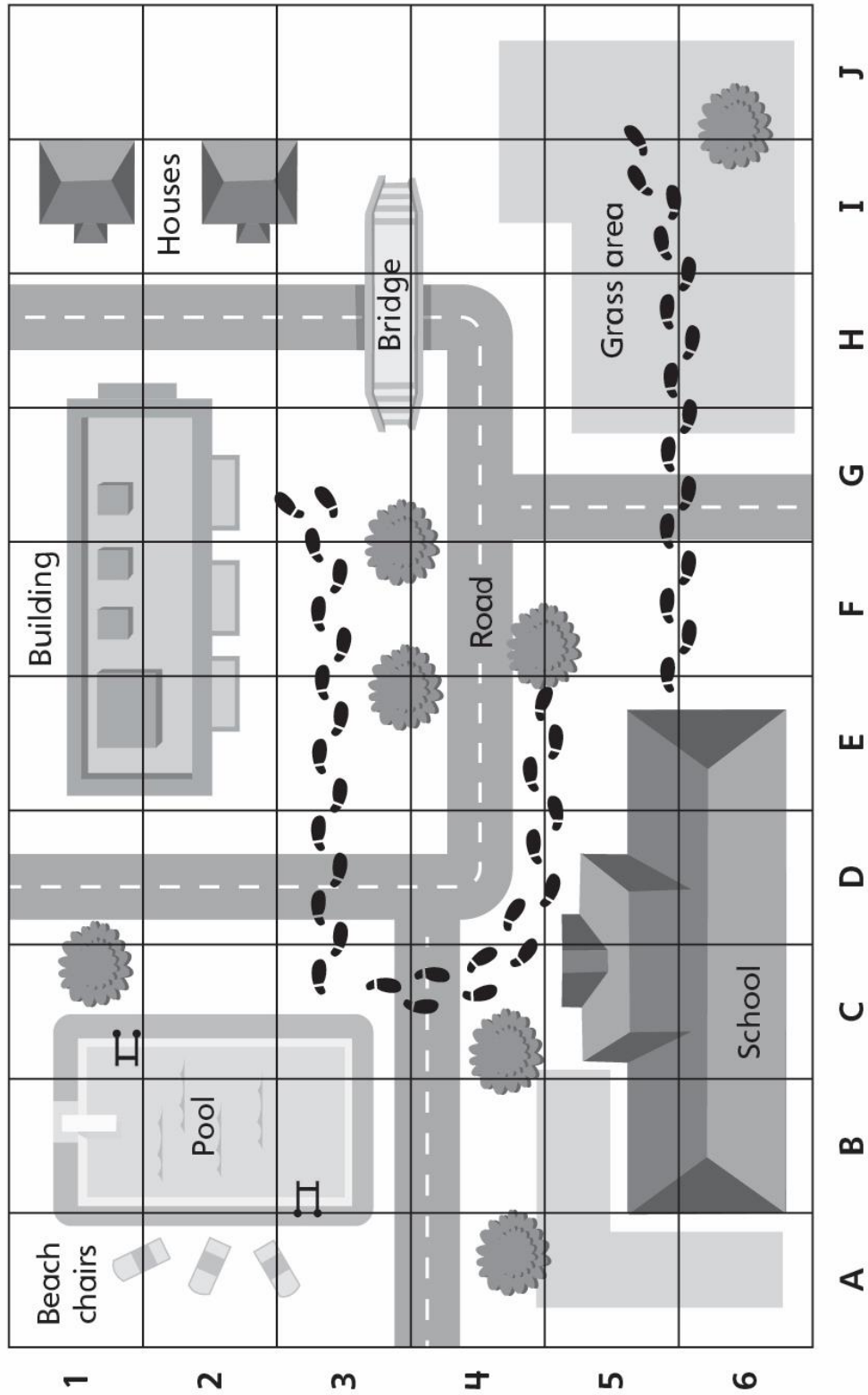
Position Words

Above	Between
Beside	Behind
In front	On top

Master 35: Activity 11 Assessment
Reading Maps

Reading Maps Behaviours/Strategies		
1. Student chooses a card, but struggles to locate objects on a map, as maps are not familiar to student.	2. Student chooses a card, but struggles to understand positional language and cannot locate objects on the map. "I don't know what *beside*, *in front*, and *between* mean."	3. Student has some knowledge of positional language, but has difficulty using it to describe the locations of objects on a map.

Observations/Documentation		

4. Student follows instructions to locate most, but not all, objects on a map.	5. Student provides instructions to locate objects on a map, but struggles to describe paths.	6. Student successfully uses relative positions to describe the locations of objects, and provides and follows instructions to locate objects on a map.

Observations/Documentation		

Master 36: Activity 12 Assessment
Drawing a Map

Drawing Maps Behaviours/Strategies

1. Student draws outline to make a simple map based on a familiar setting (classroom), but has trouble placing objects on the map.	2. Student makes a simple map based on a familiar setting (classroom) and locates and represents some, but not all, objects on the map.	3. Student makes a simple map based on a familiar setting (classroom) and places most objects on the map, but struggles with accuracy or relative sizes. "I don't know how big to draw the bookcase."

Observations/Documentation

4. Student makes a simple map based on a familiar setting (classroom) and places objects accurately, but omits important features in favour of unimportant or personal features.	5. Student makes a simple map based on a familiar setting (classroom), but omits labels or places labels incorrectly.	6. Student successfully makes a simple map based on a familiar setting (classroom).
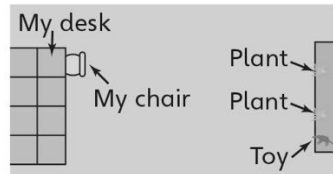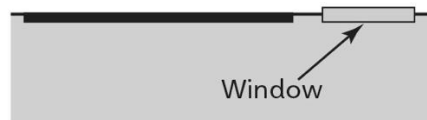
Observations/Documentation

Multiple Views

Cow

Front view

Top view

Side view

Side view

Multiple Views

Toy Bus

Front view

Side view

Bottom view

Back view

Name_____   Date _____

Multiple Views

Cup

Front view

Top view

Side view

Back view

Multiple Views

Chair

_____ view

_____ view

_____ view

_____ view

Name_____ Date _____

Perspective Recording Sheet

Object	Object	Object
_____	_____	_____
View	View	View
_____	_____	_____
Object	Object	Object
_____	_____	_____
View	View	View
_____	_____	_____

Master 39: Activity 13 Assessment
Perspective Taking

Describing Different Perspectives Behaviours/Strategies		
1. Student chooses an object, but does not show understanding of the concept of perspective.	2. Student chooses an object, but struggles to view the object from different perspectives (cannot isolate a particular view).	3. Student views objects from different perspectives, but struggles to describe the perspectives.

Observations/Documentation		

| 4. Student views objects from different perspectives and uses gestures to describe the perspectives, but struggles to describe them with words.

"Looking this way!" 👉 | 5. Student views objects from different perspectives and describes the perspectives, but struggles to describe what the objects might look like from a different perspective. | 6. Student successfully views and describes views of objects from multiple perspectives. |

Observations/Documentation		

Master 40: Activity 14 Assessment
Location and Movement: Consolidation

Describing Location Behaviours/Strategies		
1. Student has some knowledge of positional language, but has difficulty using it to describe the locations of objects on a map.	2. Student follows instructions to locate some objects on the map, but struggles with other objects.	3. Student successfully uses relative positions to describe the locations of objects, and provides and follows instructions to locate objects on a map.
Observations/Documentation		

Identifying Perspectives Behaviours/Strategies		
1. Student chooses a photo, but struggles to view the object from different perspectives (cannot isolate a particular view).	2. Student views objects from different perspectives, but struggles to describe the perspectives.	3. Student successfully views and describes objects from multiple perspectives.
Observations/Documentation		

Curriculum Correlation
Geometry Cluster 4: Coding

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **G3 Location and Movement:** describe and represent the relative locations of objects, and represent objects on a map. **Cross Strand:** Number			
G3.1 describe the relative locations (e.g., beside, two steps to the right of) and the movements of objects on a map	**Below Grade: Intervention** 9: I Spy 10: Five Questions **On Grade: Teacher Cards** 22: Exploring Coding (G3.1) 23: Coding on a Grid (G3.1) 24: Number Codes (G3.1) 25: Coding: Consolidation (G3.1) **On Grade: Math Every Day Card 5:** Code of the Day (G3.1) Wandering Animals (G3.1)		**Big Idea: Objects can be located in space and viewed from multiple perspectives.** **Locating and Mapping Objects in Space** - Uses positional language and gesture to describe locations and movement, and give simple directions (e.g., in, on, around, right, left). (Activities 22, 25) - Provides instructions to locate an object in the environment (e.g., listing instructions to find a hidden object in classroom). (Activity 25; MED 5: 2) - Describes the movement of an object from one location to another on a grid map (e.g., moving 5 squares to the left and 3 squares down). (Activities 23, 24, 25; MED 5: 1, 2)

Curriculum Correlation
Geometry Cluster 4: Coding

British Columbia/Yukon Territories/New Brunswick/Prince Edward Island/Newfoundland and Labrador/Manitoba/Nova Scotia/Alberta/ Northwest Territories/Nunavut/Saskatchewan

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Cross Strand: Number			
Optional but recommended	**Below Grade: Intervention** 9: I Spy 10: Five Questions **On Grade: Teacher Cards** 22: Exploring Coding 23: Coding on a Grid 24: Number Codes 25: Coding: Consolidation **On Grade: Math Every Day Card 5:** Code of the Day Wandering Animals		**Big Idea: Objects can be located in space and viewed from multiple perspectives.** **Locating and Mapping Objects in Space** - Uses positional language and gesture to describe locations and movement, and give simple directions (e.g., in, on, around, right, left). (Activities 22, 25) - Provides instructions to locate an object in the environment (e.g., listing instructions to find a hidden object in classroom). (Activity 25; MED 5: 2) - Describes the movement of an object from one location to another on a grid map (e.g., moving 5 squares to the left and 3 squares down). (Activities 23, 24, 25; MED 5: 1, 2)

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Name_____ Date _____

6 × 6 Grid

Name_____ Date _____

6 × 6 Grid (*Before*)

					Start B
Start A					
			Finish		

Sample Code: A: →, →, →, ↓   B: ↓, ↓, ←, ←

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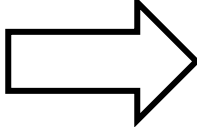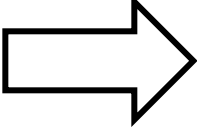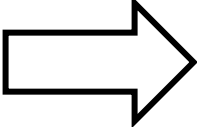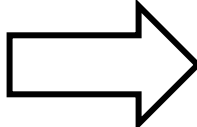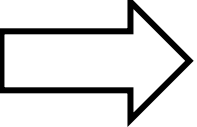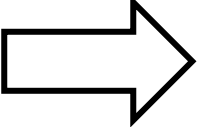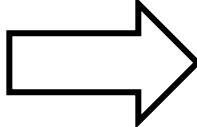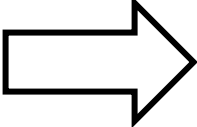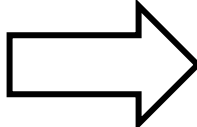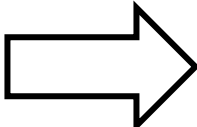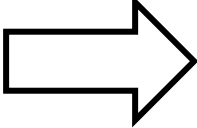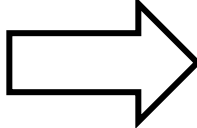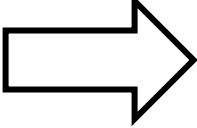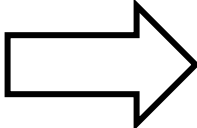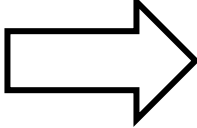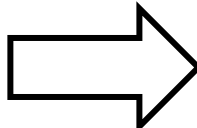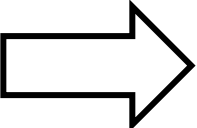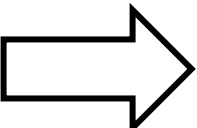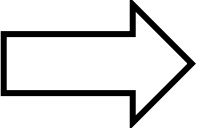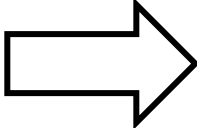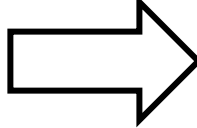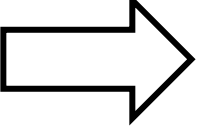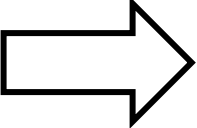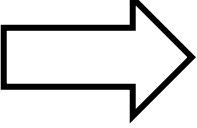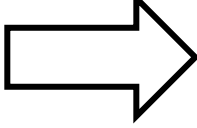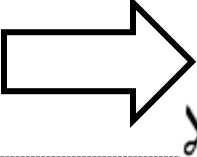
Our Neighbourhood Grid

				Finish	
	Rob's Home				
	Ariana's Home				

Movement Cards

→	→	→	→	→
→	→	→	→	→
→	→	→	→	→
→	→	→	→	→
→	→	→	→	→
Start	Finish	Start A	Start B	→

Master 45: Activity 15 Assessment
Coding Concurrent Events

Writing Code for Concurrent Events Behaviours/Strategies

1. Student describes the movement from one location to another on a grid, but code is not accurate. Code often contains one extra arrow, as student counts squares instead of steps.	2. Student describes the movement from one location to another on a grid and accurately writes code, but struggles to think about how their movements interact with a partner's movements.	3. Student uses guess and test strategies to add movements to their code so that both characters arrive at *Finish* at the same time. "I added 2 steps, but I still goth there before you. Let's try again."

Observations/Documentation

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4. Student uses algebraic thinking to add movements to their code so that both characters arrive at *Finish* at the same time. "If I go up then down, that adds 2 moves but doesn't actually move me anywhere."	5. Student acts out movements on a grid to see if characters land on the same square at the same time. "We landed on the same square again. Let's change our codes and act it out again."	6. Student visualizes movements and successfully writes code, ensuring that players do not land on the same square at the same time. "I start 4 squares to the left of you. Looking at our codes, we never get really close to each other until the Finish."

Observations/Documentation

Master 46a ## Soccer Training Camp

Soccer players Jada and Erika train together.
They do the same routine at the same time:

Jada   **Erika**

2 minutes	2 minutes
10 minutes	10 minutes
5 minutes	5 minutes
5 minutes	5 minutes
2 minutes	2 minutes
5 minutes	5 minutes
2 minutes	2 minutes

Name_____ Date _____

Soccer Training Camp

The code for the routine is:

Jada	Erika
JJ2, Lʊ10, Lʊ5, 5SB, C2, JR5, S2	JJ2, Lʊ10, Lʊ5, 5SB, C2, JR5, S2

You are their coach at training camp. Add breaks and 2 more exercises per player. The players should perform the same exercise at the same time at least twice, and finish at the same time.
Alter the code.

Jada	Erika

Alter the code for the coach's challenge. Use Master Z to help.

Jada	Erika

Name_____ Date _____

Concurrent Events Coding Sheet

Write the codes in the boxes.

Player/Dancer 1:   **Player/Dancer 2:**

Name_____ Date _____

Concurrent Events Coding Sheet (cont'd)

Player/Dancer 1:

Player/Dancer 2:

Name_____ Date _____
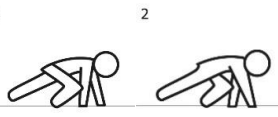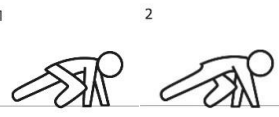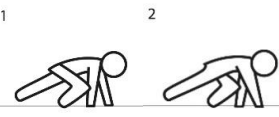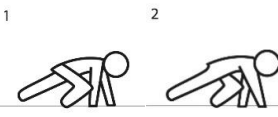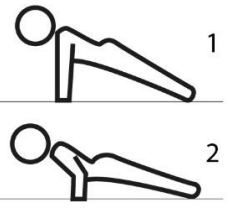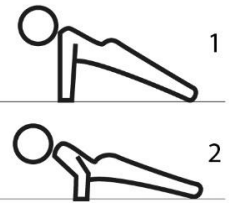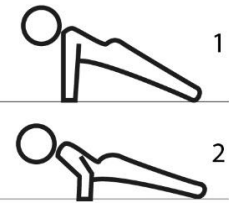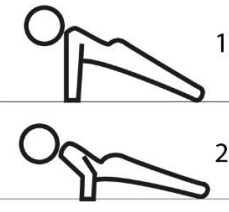
Exercise Cards

Jumping Jacks	Jumping Jacks	Jumping Jacks	Jumping Jacks
Side Bends	Side Bends	Side Bends	Side Bends
Bear Crawls	Bear Crawls	Bear Crawls	Bear Crawls
Laps	Laps	Laps	Laps
Pushups	Pushups	Pushups	Pushups
Crunches	Crunches	Crunches	Crunches

Master 48b

Exercise Cards

Jump Rope	Jump Rope	Jump Rope	Jump Rope
Bike	Bike	Bike	Bike
Weights	Weights	Weights	Weights
Squats	Squats	Squats	Squats
Rowing	Rowing	Rowing	Rowing
+0	+0	+0	+0

Master 49: Activity 16 Assessment
Effects of Altering Code

Reading, Writing, and Altering Code Behaviours/Strategies		
1. Student reads the exercises in the code for the training routine, but does not read the code accurately. S2, L↻ 5, JR5… "It's the squats, running laps, jumping rope."	2. Student accurately reads code for the training routine, but has difficulty writing code to alter the routine. "Laps backward. I don't know what the code is for that."	3. Student accurately reads code for the training routine, but omits important information when writing code to alter the routine. JJ, JR, L, L, C

Observations/Documentation		

| 4. Student reads and writes code to alter the training routine and uses algebraic thinking to add movements so players can take breaks.

"If I use a 'wait' move for this player, then the other player can use the weights." | 5. Student reads and writes code to alter the training routine, then acts out the code to see if players finish at the same time.

"Last time, I finished earlier. Let's act it out again." | 6. Student reads and writes code to alter the training routine and uses visualization and equality concepts to check the code.

"This player 'waits' when that player does crunches, so they finish at the same time." |

Observations/Documentation		

Name_____ Date _____

Codes for My Robot

Our number:
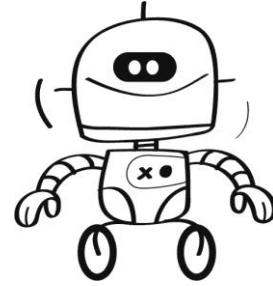
Write your codes in the boxes.

1

2

3

Name_____   Date _____

Number Cards (1–10)

1	2
3	4
5	6
7	8
q	10

Name_____ Date _____

11	**12**
13	**14**
15	**16**
17	**18**
19	**20**

Name_____ Date _____
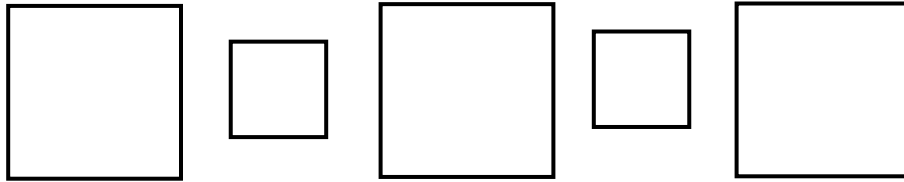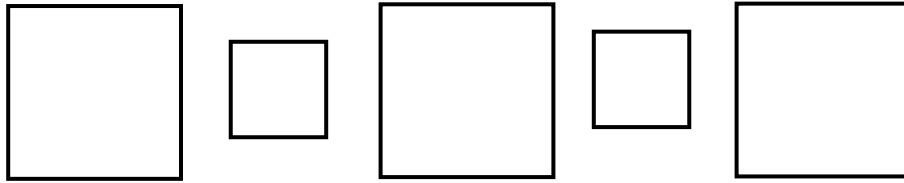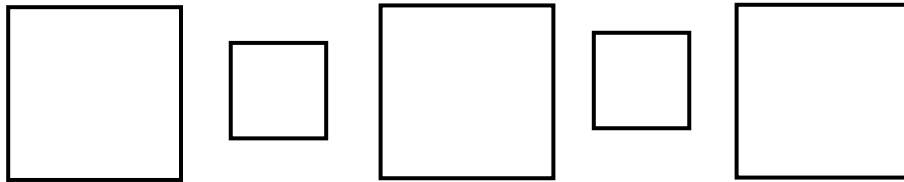
21	22
23	24
25	26
27	28
29	30

Name_____ Date _____

Number Cards (1–10)

1	2
3	4
5	6
7	8
9	10

Master 52b   **Number Cards (11–20)**

11	12
13	14
15	16
17	18
19	20

Name_____ Date _____

Number Cards (21–30)

21	**22**
23	**24**
25	**26**
27	**28**
29	**30**

Name_____   Date _____

31	32
33	34
35	36
37	38
39	40

Name_____ Date _____

Number Cards (41–50)

41	42
43	44
45	46
47	48
49	50
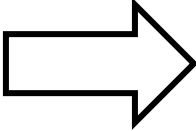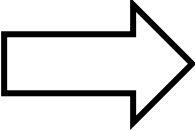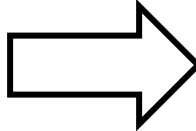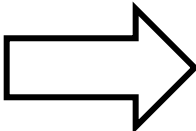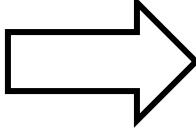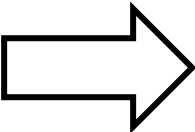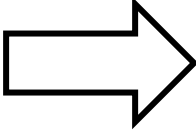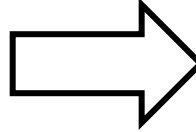
Master 53: Activity 17 Assessment
Writing Code to Solve Problems

Writing Code to Solve Problems Behaviours/Strategies		
1. Student writes code based on the target number, but the sum of the numbers in the code doesn't equal the target number. 25 "My code is: 5 + 10 + 15."	2. Student has difficulty writing code to represent the jumps on the number line. "Code for jumps? I don't know how to do that."	3. Student acts out the movement of the robot on the number line, but the robot does not land on the target number. "I followed the code to move my robot, but it didn't land on the target number."
Observations/Documentation		
4. Student writes code, but the robot does not land on the target number, instead of altering the code, the student starts over to write another code. "My robot didn't land on the target number. I've got to write the code again."	5. Student writes code based on the target number, but struggles to alter the code to avoid collisions. Robot A: 12 + 6 + 7 Robot B: 9 + 9 + 7 "Let's follow the codes and see if the robots ever end up on the same number at the same time."	6. Student writes code based on the target number, alters the code to avoid collisions, and describes how the changes to the code affect the outcome. "I subtracted 1 from the first jump and added 1 to the third jump. Now we don't collide on the second jump and my robot still ends up on 25."
Observations/Documentation		

Mathology 2
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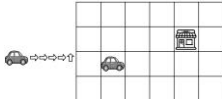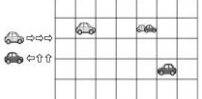
Master 54

Traffic Cards

⇒	⇒	⇒	⇒
⇒	⇒	⇒	⇒
A	B	C	**Place Card** Doctor
Place Card Plaza	**Place Card** Grocery Store	**Place Card** Park	**Place Card** Diner
STOP Wait for the other car to move 1 step	STOP Wait for the other car to move 1 step	Wait for the other car to move 2 steps	Wait for the other car to move 2 steps
Start A	Start B	+0	+0

Master 55: Activity 18 Assessment
Consolidation

Reading and Writing Code Behaviours/Strategies		
1. Student describes the movement from one location to another on a grid, but code is not accurate. Code often contains one extra arrow, as student counts squares instead of steps.	2. Student describes the movements from one location to the other on a grid and accurately writes code, but struggles to think about how their movements interact with a partner's movements.	3. Student describes the movement from one location to the other on a grid and accurately writes code, but struggles to add "wait" moves t avoid collision. "Better start over so we don't crash into each other. You go left, and I'll go right."

Observations/Documentation		

4. Student uses guess and test strategies to add movements to their code so that both cars get to the same place at the same time. "I added 2 steps but still go there before you. Let's try again."	5. Student considers how the cars' moves related to each other when writing and altering code, but struggles to describe how the changes affect the outcomes. "Let's act it out and see what happens."	6. Student successfully reads, writes, and alters code and describes how changes to the code affect the outcomes. "Here, my 'wait' move keeps me from crashing into you. Then we don't drive onto the same spot at the same time until we get to park."

Observations/Documentation		

Curriculum Correlation
Data Management and Probability Cluster 1: Data Management

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectations **D1 Collection and Organization of Data:** collect and organize categorical or discrete primary data and display the data, using tally charts, concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, with labels ordered appropriately along horizontal axes, as needed **D2 Data Relationships:** read and describe primary data presented in tally charts, concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers			
D1.2 gather data to answer a question, using a simple survey with a limited number of responses **D1.3** collect and organize primary data that is categorical or discrete, and display the data using one-to-one correspondence in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed **D2.1** read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, and describe the data using mathematical language	**Below Grade: Intervention** 1: Interpreting Pictographs 2: Sorting Objects **On Grade: Teacher Cards** 1: Interpreting Graphs 1 (D2.1, D2.2, D2.4) 2: Interpreting Graphs 2 (D2.1, D2.2, D2.4) 3: Creating a Survey (D1.2, D2.2, D2.3) 4: Making Graphs 1 (D1.3, D2.1, D2.2, D2.4) 5: Making Graphs 2 (D1.3, D2.1, D2.2, D2.4) 6: Data Management Consolidation (D1.2, D1.3, D2.1, D2.2, D2.3) **On Grade: Math Every Day Card 1:** Conducting Surveys (D1.2, D2.2) Reading and Interpreting Graphs (D2.1, D2.4)	**Below Grade:** • Graph It! (Activities 1, 4, 6) **On Grade:** • Big Buddy Days (Activities 1, 3, 4, 6) • Marsh Watch (Activities 2, 3, 5, 6) **Above Grade:** • Welcome to the Nature Park (Activities 2, 5, 6)	**Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.** **Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data** - Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1) **Collecting Data and Organizing It into Categories** - Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1) **Creating Graphical Displays of Collected Data** - Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6) - Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6) - Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6) **Reading and Interpreting Data Displays** - Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2) **Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data** - Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation
Data Management and Probability Cluster 1: Data Management

Ontario (continued)

D2.2 pose and answer questions about class-generated data in concrete graphs, pictographs, line plots, simple bar graphs, and tally charts **D2.3** distinguish between numbers that represent data values and numbers that represent the frequency of an event **D2.4** demonstrate an understanding of data displayed in a graph, by comparing different parts of the data and by making statements about the data as a whole			**Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically** - Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation
Data Management and Probability Cluster 1: Data Management

British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Concrete items can be represented, compared, and interpreted pictorially in graphs. **Cross Strand:** Patterns and Relations			

D1 Pictorial representation of concrete graphs using one-to-one correspondence
• **D1.1** collecting data, creating a concrete graph, and representing the graph using a pictorial representation through grids, stamps, drawings)
• **D1.2** one-to-one correspondence
	Below Grade: Intervention
	1: Interpreting Pictographs
	2: Sorting Objects
	
	On Grade: Teacher Cards
	1: Interpreting Graphs 1
	  (D1.1, D1.2)
	2: Interpreting Graphs 2
	3: Creating a Survey
	  (D1.1, D1.2)
	4: Making Graphs 1
	  (D1.1, D1.2)
	5: Making Graphs 2
	6: Data Management
	  Consolidation (D1.1, D1.2)
	
	On Grade: Math Every Day Card 1:
	Conducting Surveys
	(D1.1, D1.2)
	Reading and Interpreting Graphs
	(D1.1, D1.2)
		Below Grade:
		• Graph It!
		  (Activities 1, 4, 6)
		
		On Grade:
		• Big Buddy Days
		  (Activities 1, 3, 4, 6)
		• Marsh Watch
		  (Activities 2, 3, 5, 6)
		
		Above Grade:
		• Welcome to the Nature Park
		  (Activities 2, 5, 6)
			Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.
			Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data
			- Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1)
			Collecting Data and Organizing It into Categories
			- Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1)
			Creating Graphical Displays of Collected Data
			- Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6)
			- Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6)
			- Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6)
			Reading and Interpreting Data Displays
			- Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2)
			Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data
			- Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)
			
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically
			- Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

New Brunswick/Prince Edward Island/Newfoundland and Labrador

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Statistics and Probability: Collect, display and analyze data to solve problems. **Cross Strand** Patterns and Relations: Use patterns to describe the world and solve problems.			

SP1 Gather and record data about self and others to answer questions.
 	
SP2 Construct and interpret concrete graphs and pictographs to solve problems.
	Below Grade: Intervention
	1: Interpreting Pictographs
	2: Sorting Objects
	
	On Grade: Teacher Cards
	1: Interpreting Graphs 1 (SP2)
	2: Interpreting Graphs 2
	3: Creating a Survey (SP1)
	4: Making Graphs 1 (SP2)
	5: Making Graphs 2
	6: Data Management
	   Consolidation (SP2)
	
	On Grade: Math Every Day Card 1:
	Conducting Surveys
	(SP1)
	Reading and Interpreting Graphs
	(SP2)
		Below Grade:
		• Graph It!
		  (Activities 1, 4, 6)
		
		On Grade:
		• Big Buddy Days
		  (Activities 1, 3, 4, 6)
		• Marsh Watch
		  (Activities 2, 3, 5, 6)
		
		Above Grade:
		• Welcome to the Nature Park
		  (Activities 2, 5, 6)
			Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.
			Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data
			- Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1)
			Collecting Data and Organizing It into Categories
			- Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1)
			Creating Graphical Displays of Collected Data
			- Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6)
			- Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6)
			- Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6)
			Reading and Interpreting Data Displays
			- Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2)
			Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data
			- Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically
			- Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation
Data Management and Probability Cluster 1: Data Management

Manitoba

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Statistics and Probability: Collect, display, and analyze data to solve problems. **Cross Strand** Patterns and Relations: Use patterns to describe the world and solve problems.			
2.SP.1 Gather and record data about self and others to answer questions. **2.SP.2** Construct and interpret concrete graphs and pictographs to solve problems.	**Below Grade: Intervention** 1: Interpreting Pictographs 2: Sorting Objects **On Grade: Teacher Cards** 1: Interpreting Graphs 1 (2.SP.2) 2: Interpreting Graphs 2 3: Creating a Survey (2.SP.1) 4: Making Graphs 1 (2.SP.2) 5: Making Graphs 2 6: Data Management Consolidation (2.SP.2) **On Grade: Math Every Day Card 1:** Conducting Surveys (2.SP.1) Reading and Interpreting Graphs (2.SP.2)	**Below Grade:** • Graph It! (Activities 1, 4, 6) **On Grade:** • Big Buddy Days (Activities 1, 3, 4, 6) • Marsh Watch (Activities 2, 3, 5, 6) **Above Grade:** • Welcome to the Nature Park (Activities 2, 5, 6)	**Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.** **Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data** - Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1) **Collecting Data and Organizing It into Categories** - Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1) **Creating Graphical Displays of Collected Data** - Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6) - Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6) - Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6) **Reading and Interpreting Data Displays** - Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2) **Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data** - Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation
Data Management and Probability Cluster 1: Data Management

Nova Scotia

Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Statistics and Probability: Students will be expected to collect, display, and analyze data to solve problems. **Cross Strand** Patterns and Relations: Students will be expected to use patterns to describe the world and solve problems.			
SP01 Students will be expected to gather and record data about self and others to answer questions. **2SP02** Students will be expected to construct and interpret concrete graphs and pictographs to solve problems.	**Below Grade: Intervention** 1: Interpreting Pictographs 2: Sorting Objects **On Grade: Teacher Cards** 1: Interpreting Graphs 1 (SP02) 2: Interpreting Graphs 2 3: Creating a Survey (SP01) 4: Making Graphs 1 (SP02) 5: Making Graphs 2 6: Data Management Consolidation (SP02) **On Grade: Math Every Day Card 1:** Conducting Surveys (SP01) Reading and Interpreting Graphs (SP02)	**Below Grade:** • Graph It! (Activities 1, 4, 6) **On Grade:** • Big Buddy Days (Activities 1, 3, 4, 6) • Marsh Watch (Activities 2, 3, 5, 6) **Above Grade:** • Welcome to the Nature Park (Activities 2, 5, 6)	**Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.** **Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data** - Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1) **Collecting Data and Organizing It into Categories** - Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1) **Creating Graphical Displays of Collected Data** - Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6) - Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6) - Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6) **Reading and Interpreting Data Displays** - Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2) **Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data** - Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically** - Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

Alberta/Northwest Territories/Nunavut

Learning Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
General Outcome Statistics and Probability: Collect, display, and analyze data to solve problems. **Cross Strand** Patterns and Relations: Use patterns to describe the world and solve problems.			

Statistics and Probability:
1. Gather and record data about self and others to answer questions.
 	
2. Construct and interpret concrete graphs and pictographs to solve problems.
 	
Patterns and Relations:
3. Sort a set of objects, using two attributes, and explain the sorting rule.
	Below Grade: Intervention
	1: Interpreting Pictographs
	2: Sorting Objects
	
	On Grade: Teacher Cards
	1: Interpreting Graphs 1
	   (SP2)
	2: Interpreting Graphs 2
	3: Creating a Survey
	   (SP1)
	4: Making Graphs 1
	   (SP2, PR3)
	5: Making Graphs 2
	6: Data Management
	   Consolidation (SP1, SP2)
	
	On Grade: Math Every Day Card 1:
	Conducting Surveys
	(SP1)
	Reading and Interpreting Graphs
	(SP2)
		Below Grade:
		• Graph It!
		  (Activities 1, 4, 6)
		
		On Grade:
		• Big Buddy Days
		  (Activities 1, 3, 4, 6)
		• Marsh Watch
		  (Activities 2, 3, 5, 6)
		
		Above Grade:
		• Welcome to the Nature Park
		  (Activities 2, 5, 6)
			Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.
			Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data
			- Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1)
			Collecting Data and Organizing It into Categories
			- Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1)
			Creating Graphical Displays of Collected Data
			- Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6)
			- Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6)
			- Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6)
			Reading and Interpreting Data Displays
			- Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2)
			Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data
			- Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)
			Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.
			Identifying, Sorting, and Classifying Attributes and Patterns Mathematically
			- Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Curriculum Correlation
Data Management and Probability Cluster 1: Data Management

Saskatchewan

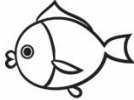| Specific Outcomes	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Goals Spatial Sense, Number Sense, Logical Thinking, Mathematics as a Human Endeavour **Cross Strand:** Patterns and Relations Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour			
Statistics and Probability **SP2.1** Demonstrate understanding of concrete graphs and pictographs.	**Below Grade: Intervention** 1: Interpreting Pictographs 2: Sorting Objects **On Grade: Teacher Cards** 1: Interpreting Graphs 1 (SP2.1) 2: Interpreting Graphs 2 3: Creating a Survey (SP2.1) 4: Making Graphs 1 (SP2.1) 5: Making Graphs 2 6: Data Management Consolidation (SP2.1) **On Grade: Math Every Day Card 1:** Conducting Surveys (SP2.1) Reading and Interpreting Graphs (SP2.1)	**Below Grade:** • Graph It! (Activities 1, 4, 6) **On Grade:** • Big Buddy Days (Activities 1, 3, 4, 6) • Marsh Watch (Activities 2, 3, 5, 6) **Above Grade:** • Welcome to the Nature Park (Activities 2, 5, 6)	**Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.** **Formulating Questions to Learn About Groups, Collections, and Events by Collecting Relevant Data** - Formulates questions that can be addressed through simple surveys. (Activities 3, 5, 6; MED 1: 1) **Collecting Data and Organizing It into Categories** - Collects data from simple surveys concretely (e.g., shoes, popsicle sticks) or using simple records (e.g., check marks, tallies). (Activities 3, 5, 6; MED 1: 1) **Creating Graphical Displays of Collected Data** - Creates displays using objects or simple pictographs (may use symbol for data). (Activities 4, 6) - Creates one-to-one displays (e.g., line plot, dot plot, bar graph). (Activities 5, 6) - Displays data collected in more than one way and describes the differences (e.g., bar graph, pictograph). (Activities 4, 5, 6) **Reading and Interpreting Data Displays** - Interprets displays by noting how many more/less than other categories. (Activities 1, 2, 4, 5, 6, MED 1: 2) **Drawing Conclusions by Making Inferences and Justifying Decisions Based on Collected Data** - Poses and answers questions about data collected and displayed. (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2) **Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.** **Identifying, Sorting, and Classifying Attributes and Patterns Mathematically** - Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). (Activities 1, 2, 3, 4, 5, 6; MED 1: 1, 2)

Name_____ Date _____

Fish Cards

Name_____ Date _____

Fish Cards

Name_____ Date _____

Fish Cards

Name_____   Date _____

Our Venn Diagram

Name_____   Date _____

Our Venn Diagram (3 Loops)
(Combined Grades Extension)

_____   _____

_____
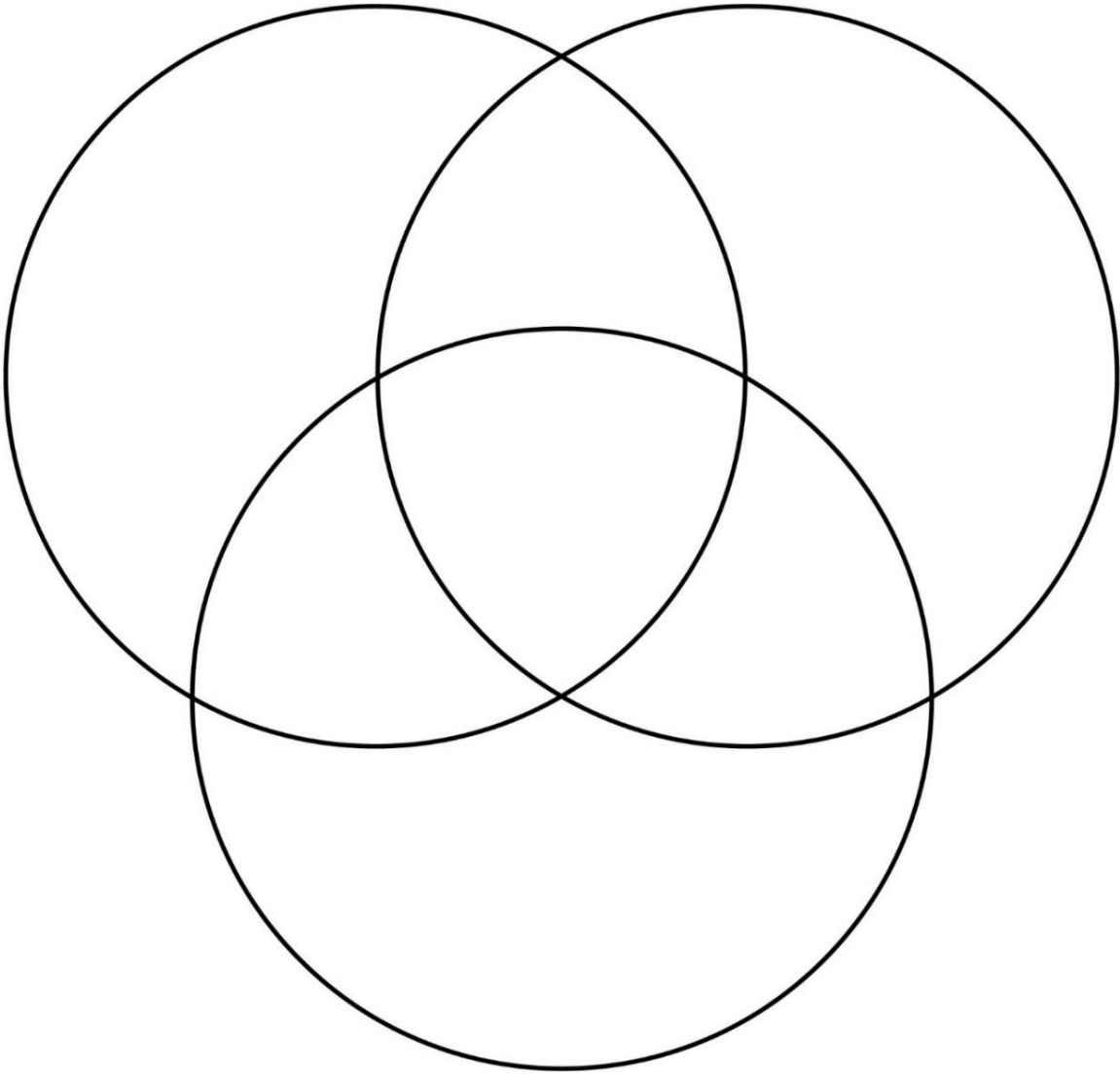
Name_____   Date _____

Our Two-Way Table

Collection of _____	Attribute:		
	Category:	Category:	Category:
Attribute: _____ Category:			
Category:			
Category:			

Name_____   Date _____

Our Carroll Diagram

Attribute:	Attribute:	
	Category:	Category:
Category:		
Category:		

Name_____ Date _____

Before Sample Answers

Venn Diagram

Blue Shoes	Blue Shoes with Laces	Shoes with Laces
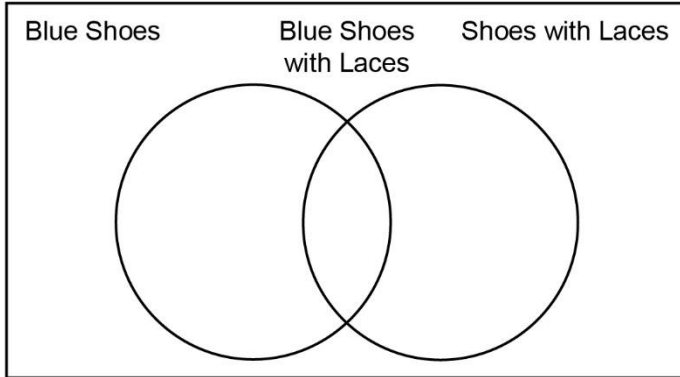
Carroll Diagram

Our Shoes	Type of Fastener	
Colour	Laces	No Laces
Blue	||	⊬⊬
Not Blue	⊬⊬ |||	⊬⊬ ⊬⊬ ⊬⊬ ||||

Two-Way Table

Our Shoes	Type of Fastener		
Colour	Laces	Velcro	Buckle
Blue	||	||||		
Black	||	⊬⊬	|||
Brown	||			
2 or more colours	||||	⊬⊬ |||	||

Master 7: Activity 1 Assessment
Sorting Data by 2 Attributes

Sorting Data According to 2 Attributes Behaviours/Strategies

1. Student identifies two attributes, but struggles to sort the collection. "I know fish have different colours and patterns. I'm not sure how I can sort them using two attributes."	2. Student identifies two attributes, but struggles to sort the collection using both attributes. White | Spots "These fish are white and this one has spots."	3. Student sorts a collection by two attributes on a Venn diagram. "Here's how I sorted using two attributes. The fish with both characteristics is in the overlap."
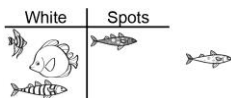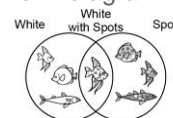
Observations/Documentation

4. Student sorts data by two attributes using a two-way table. "I sorted using two attributes. My two-way table shows the data."	5. Student sorts data by two attributes using a Carroll diagram. "This diagram shows the data I sorted using two attributes."	6. Student flexibly chooses an appropriate tool to sort data by two attributes and justifies choice.

Two-way table (item 4):

Fish	Size		
	Small	Medium	Large
Colour — White	卌	|||	||
Colour — Light Grey	||	||||	卌
Colour — Dark Grey	||	卌	||||

Carroll diagram (item 5):

Fish	Pattern	
Colour	Spots	Not Spots
White	||	卌 ||
Not White	卌 卌 卌 |||	卌 卌 卌
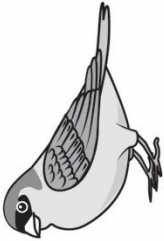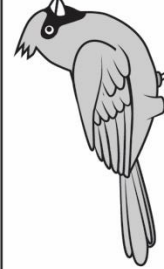
Observations/Documentation

Sample Pictograph

Birds Olivia Saw on Her Way to School

Sparrow	Cardinal	Crow	Blue Jay

Master 9: Activity 2 Assessment
Interpreting Graphs 1

Interpreting Pictographs Behaviours/Strategies		
1. Student looks at pictograph, but does not know where to start.	2. Student reads pictographs, but counts one picture twice or mixes up the number word sequence. "1, 2, 3, 5, 6"	3. Student reads pictographs, but struggles to interpret data to answer "how many" questions.
Observations/Documentation		

4. Student reads pictographs, but struggles to interpret data to answer comparison questions (e.g., how many more/less). "How do I know how many more squirrels there are?"	5. Student reads pictographs and interprets displays by noting how many more/less than other categories, but struggles to compare the two graphs to see how the information displayed is alike and how it is different.	6. Student successfully reads pictographs and interprets displays by noting how many more/less than other categories, makes inferences about the data, and compares graphs using math language.
Observations/Documentation		

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Name_____ Date _____

Sample Line Plot

Favourite Pets of Some Children

```
X

X                               X

X               X               X

X               X               X               X

X               X               X               X
```

Dog   Rabbit   Cat   Turtle

Name_____ Date _____

Sample Bar Graph

How Some Students Get to School

	Bike	Car	Bus	Walk
6			▓	
5			▓	
4			▓	▓
3		▓	▓	▓
2		▓	▓	▓
1	▓	▓	▓	▓
0				
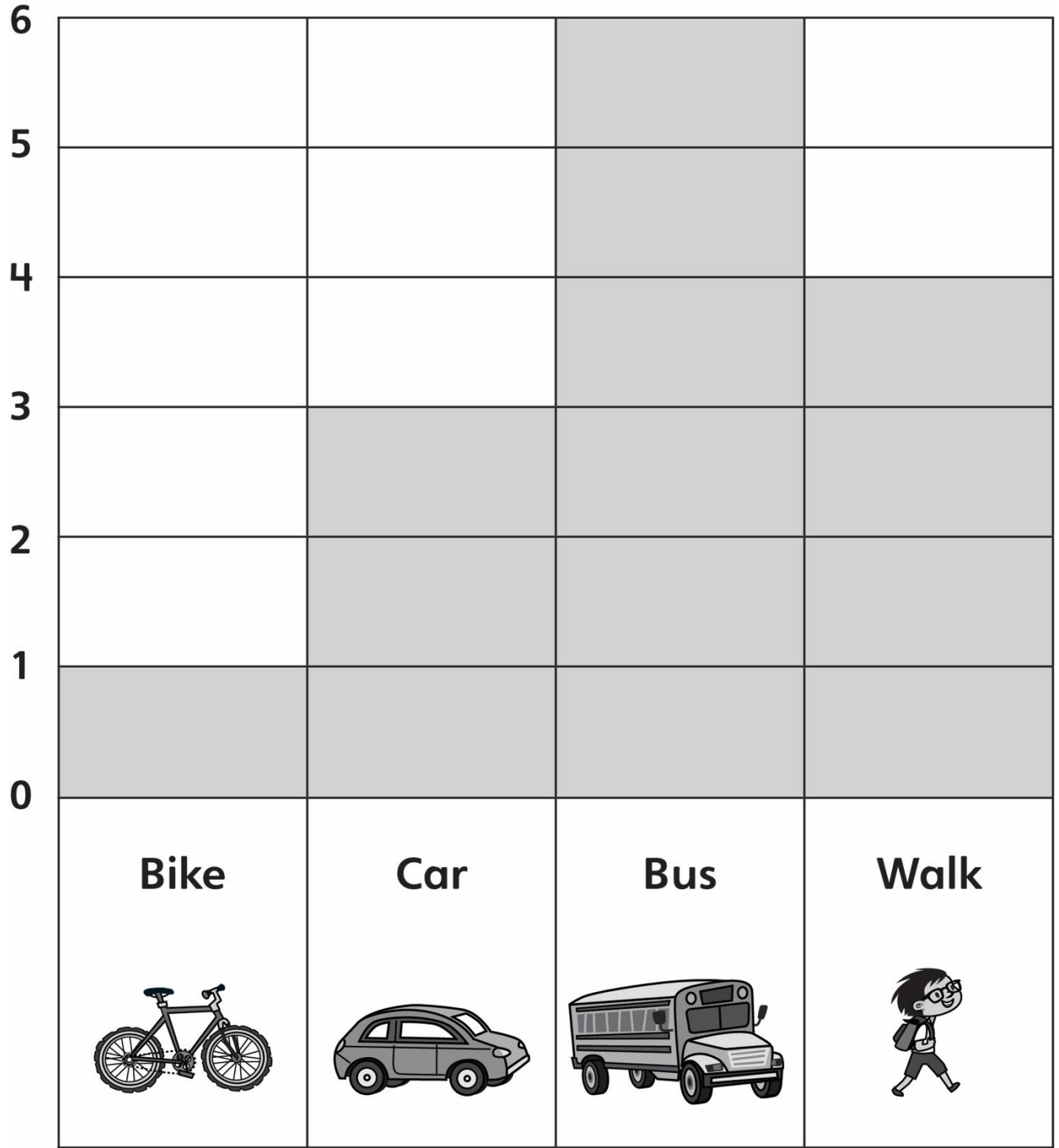
Reading and Interpreting Line Plots and Bar Graphs Behaviours/Strategies

1. Student looks at graphs, but does not know where to start.	2. Student reads line plot, but counts one X twice or mixes up the number word sequence. "1, 2, 4, 5"	3. Student looks at bar graph, but struggles to read data (e.g., counts instead of using scale).	4. Student reads displays, but struggles to interpret data.

Observations/Documentation

5. Student reads displays, but struggles to interpret data to answer "how many" questions.	6. Student reads displays, but struggles to interpret data to answer comparison questions (e.g., how many more/less).	7. Student reads and interprets displays by noting how many more/less than other categories, but struggles to determine whether graphs show same data.	8. Student successfully interprets displays by noting how many more/less than other categories, determines whether graphs show same data, and makes inferences about the data.

Observations/Documentation

Name_____ Date _____

Our Survey

Our question:

_____

_____

Possible answers		

Name_____ Date _____

Our Survey (con't)

Our findings:

What this tells us:

Name_____ Date _____

Our Survey

Our question:

_____

_____

Possible answers: _____

_____

_____

_____

_____

_____

_____

_____

Name_____ Date _____

Our Survey (con't)

Our findings:

What this tells us:

Name_____ Date _____

Our Survey

Our question:

_____

_____

Possible answers:

Name_____ Date _____

Our Survey (con't)

Our findings:

What this tells us:

Master 14: Activity 4 Assessment
Creating a Survey

Conducting Surveys Behaviours/Strategies		
1. Student thinks of a topic, but is unable to formulate a question that can be addressed through a survey. "My favourite animal is a panda."	2. Student formulates a question that can be addressed through a survey, but does not include sample or reasonable responses or focus on two attributes. "Which fruit do you like best?"	3. Student formulates a question that can be addressed through a survey, but when collecting data, asks some students more than once.

Observations/Documentation

| 4. Student formulates a question that can be addressed through a survey, but when collecting data, struggles to record responses using simple records.

"Which ice cream do you like best: chocolate or vanilla, with or without sprinkles?" | 5. Student formulates a question that can be addressed through a survey and collects data in a two-way tally table, but struggles to use data to draw conclusions. | 6. Student successfully formulates a question that can be addressed through a survey, collects data in a two-way tally table, and uses data to draw conclusions. |

Observations/Documentation

Name_____ Date _____

Graphing Mat (Columns Divided)

Note: Choose a graphing mat with columns divided or with columns not divided, depending on students' needs.

Name_____ Date _____

Graphing Mat (Columns not Divided)

Master 16: Activity 5 Assessment
Making Graphs 1

Making Concrete Graphs and Pictographs Behaviours/Strategies

1. Student labels columns, but is unable to sort objects to create display.	2. Student creates display, but sorts objects into piles or bunches pictures together on graph.	3. Student creates display, but objects/pictures are not equally spaced and aligned or pictures have different sizes.	4. Student successfully creates displays using objects or simple pictographs.
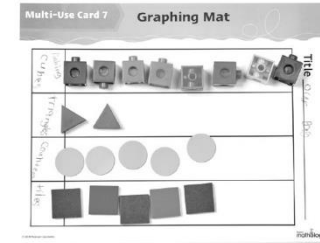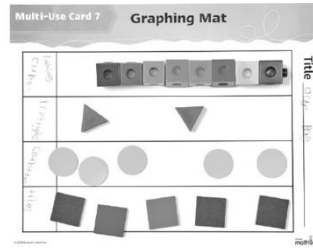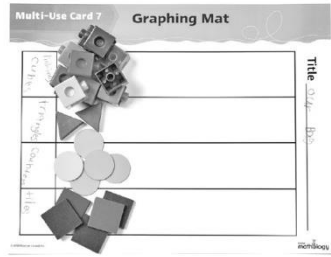
Observations/Documentation

Reading and Interpreting Graphs Behaviours/Strategies

1. Student reads displays, but counts objects/pictures twice or mixes up the number word sequence.	2. Student reads displays, but struggles to interpret data to answer "how many" questions.	3. Student reads displays, but struggles to interpret data to answer comparison questions (e.g., how many more/less).	4. Student successfully interprets displays by noting how many more/less than other categories.

Observations/Documentation

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Name_____ Date _____

Line Plot Template

Graph title: _____

_____	_____	_____	_____

Name_____ Date _____

Bar Graph Template

Graph title: _____

10				
9				
8				
7				
6				
5				
4				
3				
2				
1				
	_____	_____	_____	_____

Sample Line Plot

Favourite Pets of Some Children

X

X   X

X   X   X

X   X   X   X

X   X   X   X
|_____|_____|_____|_____

Dog   **Rabbit**   **Cat**   **Turtle**

Master 20: Activity 6 Assessment
Making Graphs 2
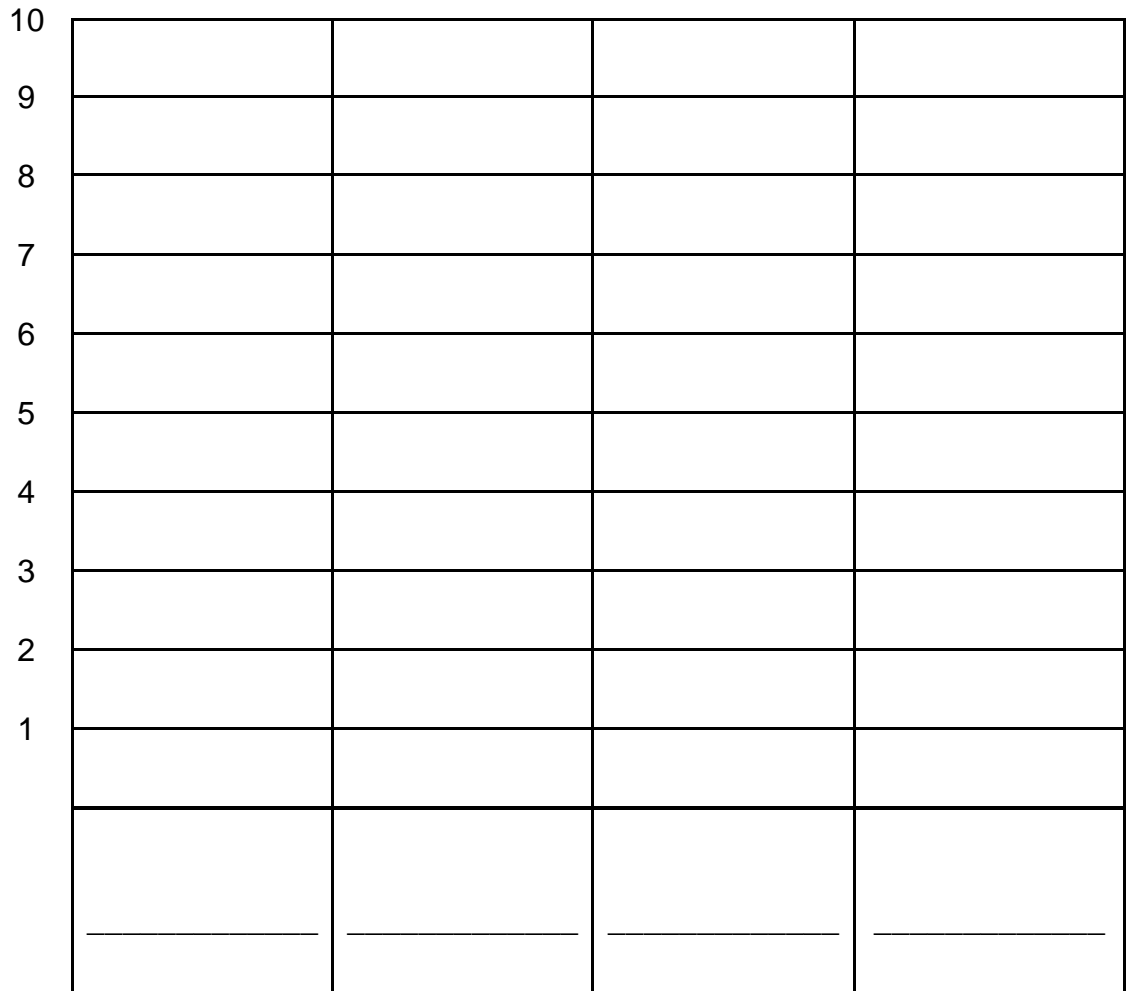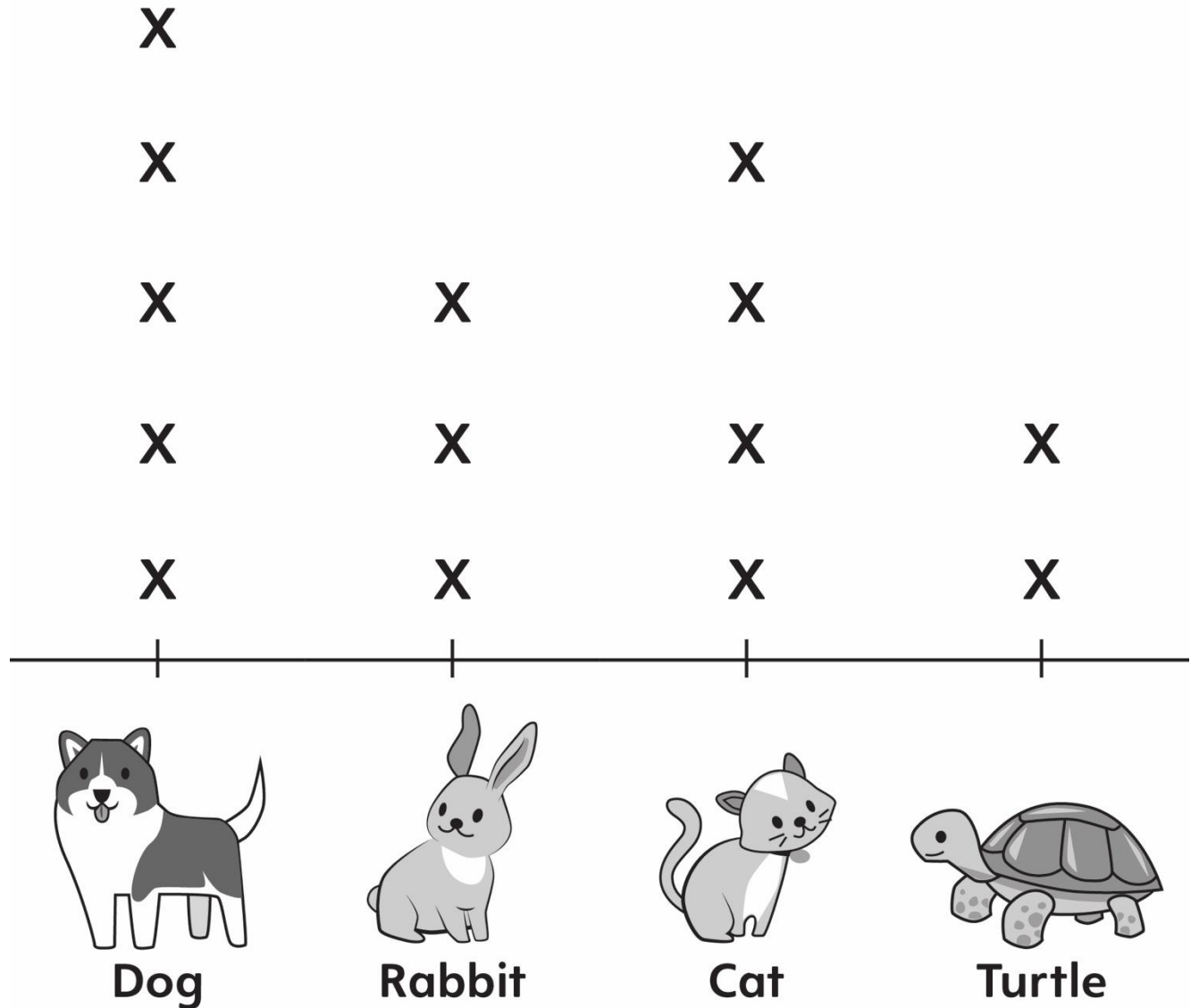
Making Line Plots and Bar Graphs Behaviours/Strategies

1. Student chooses a template and attempts to create a one-to-one display (e.g., line plot, bar graph), but does not include labels.	2. Student creates a one-to-one display, but struggles to translate information from tally chart to graph (i.e., numbers in tally chart and graph do not match).	3. Student creates a one-to-one display, but bunches Xs together or does not space Xs or shaded rectangles equally.	4. Student successfully creates one-to-one displays (e.g., line plot, bar graph).
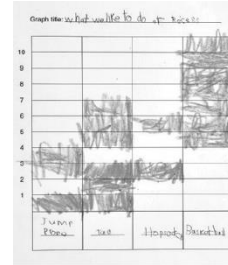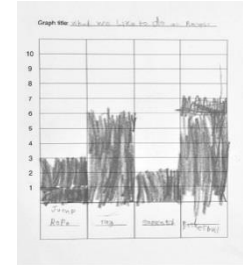
Observations/Documentation

Reading and Interpreting Graphs Behaviours/Strategies

1. Student reads displays, but counts Xs or coloured rectangles twice or mixes up the number word sequence. "1, 2, 3, 5, 6"	2. Student reads displays, but struggles to interpret data to answer "how many" questions.	3. Student reads displays, but struggles to interpret data to answer comparison questions (e.g., how many more/less).	4. Student successfully interprets displays by noting how many more/less than other categories.

Observations/Documentation

Graphs and Tables
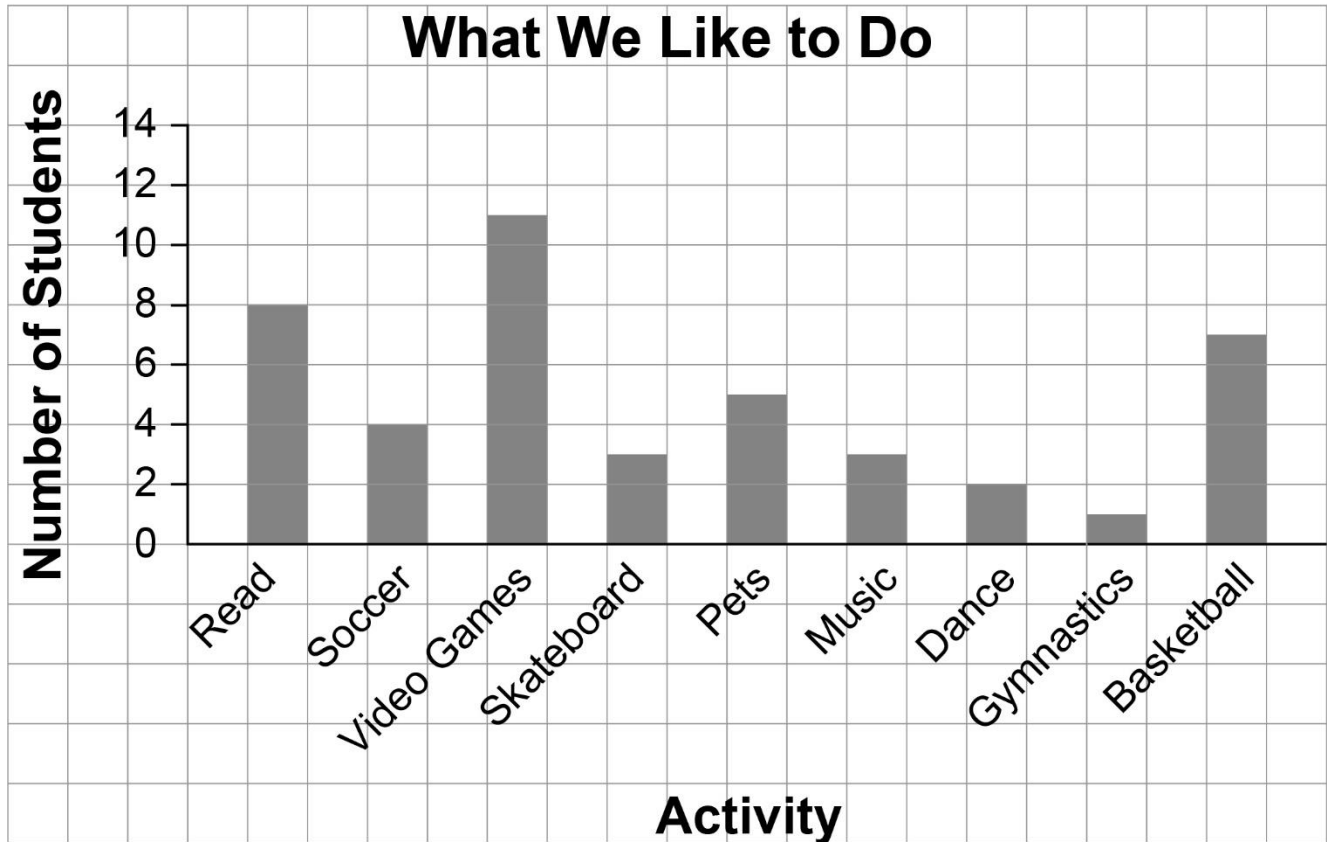
What We Like to Do

Bar graph titled "What We Like to Do" with the vertical axis labeled "Number of Students" (0 to 14) and horizontal axis labeled "Activity."

Activity	Number of Students
Read	8
Soccer	4
Video Games	11
Skateboard	3
Pets	5
Music	3
Dance	2
Gymnastics	1
Basketball	7

Source: Gr. 2 Class at Hillsdale Elementary School

Name_____ Date _____

Graphs and Tables (con't)

Favourite Time at School

Activities (y-axis)

- Reading: 2
- Math: 7
- Table Activities: 4
- Arts: 6
- Recess: 7
- Gym: 7

Number of Students (x-axis: 0 1 2 3 4 5 6 7 8 9 10)
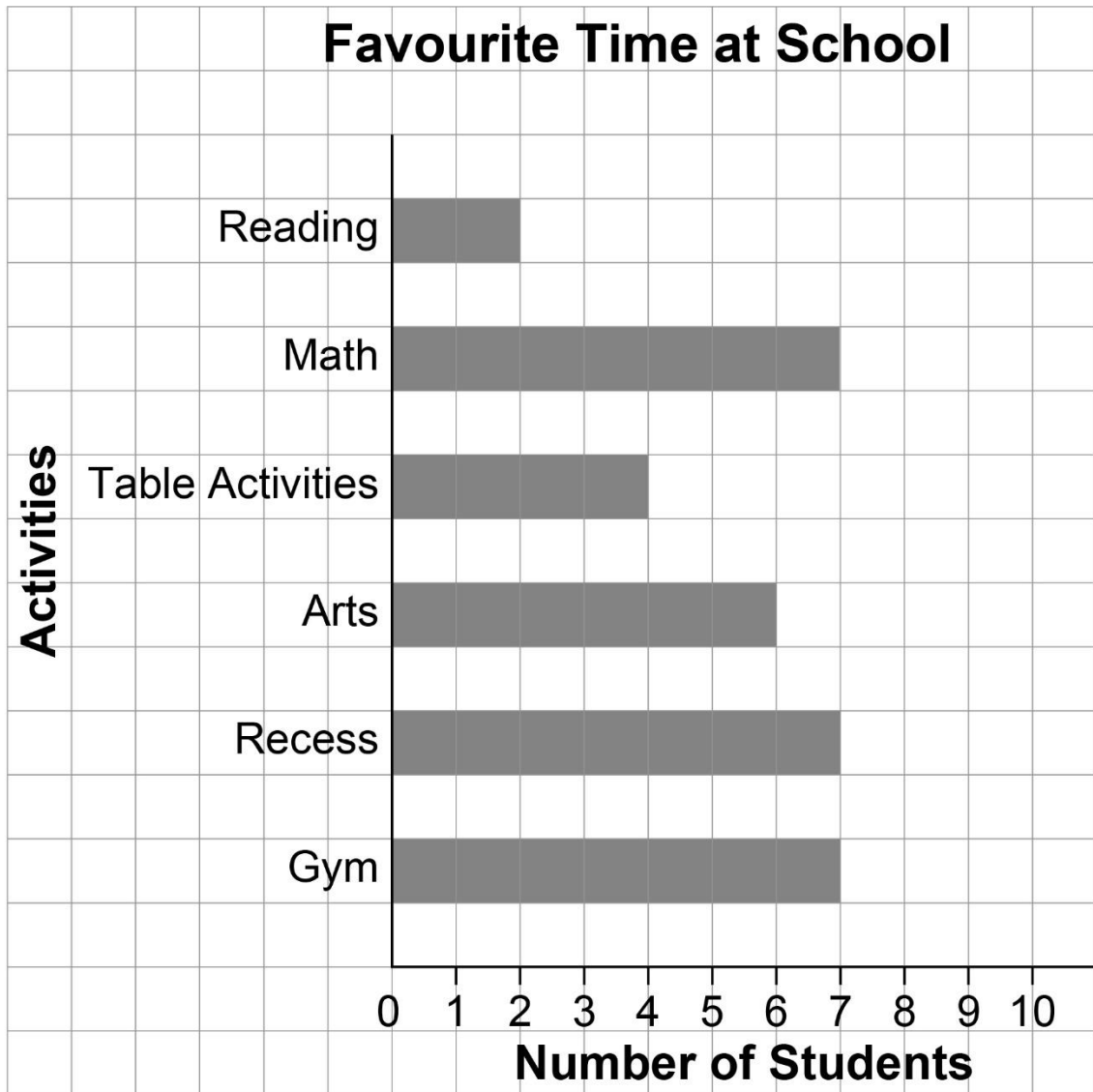
Source: Gr. 2 Class at Hillsdale Elementary School

Graphs and Tables (con't)

Our Favourite Ice Cream

Ice Cream	
Vanilla	⬤ ⬤ ⬤ ⬤ ⬤ ⬤
Chocolate	⬤ ⬤ ⬤ ⬤ ⬤ ⬤
Twist	⬤ ⬤ ⬤ ⬤ ⬤ ⬤
Butterscotch	⬤ ⬤ ⬤ ⬤ ⬤ ⬤
Tiger Tail	⬤ ⬤ ⬤ ⬤ ⬤ ⬤
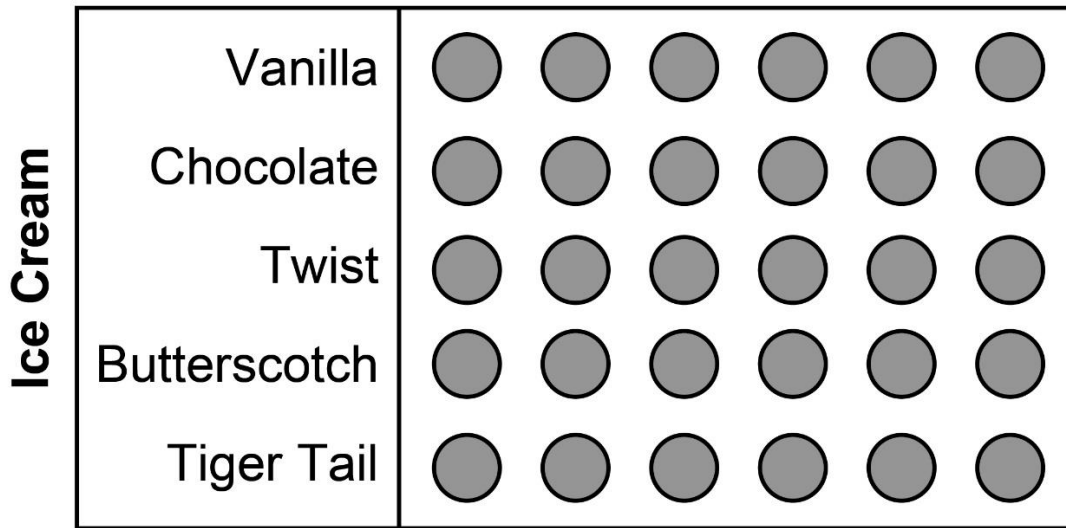
Key: ⬤ = 1

Source: Gr. 2 Class at Hillsdale Elementary School

Graphs and Tables (con't)

Animals Seen in the Woods

Animals	
Squirrel	▦ ▦ ▦ ▦ ▦ ▣
Deer	▣
Owl	▦
Swallow	▦ ▦ ▦ ▦ ▦ ▦ ▦ ▦
Beaver	▦
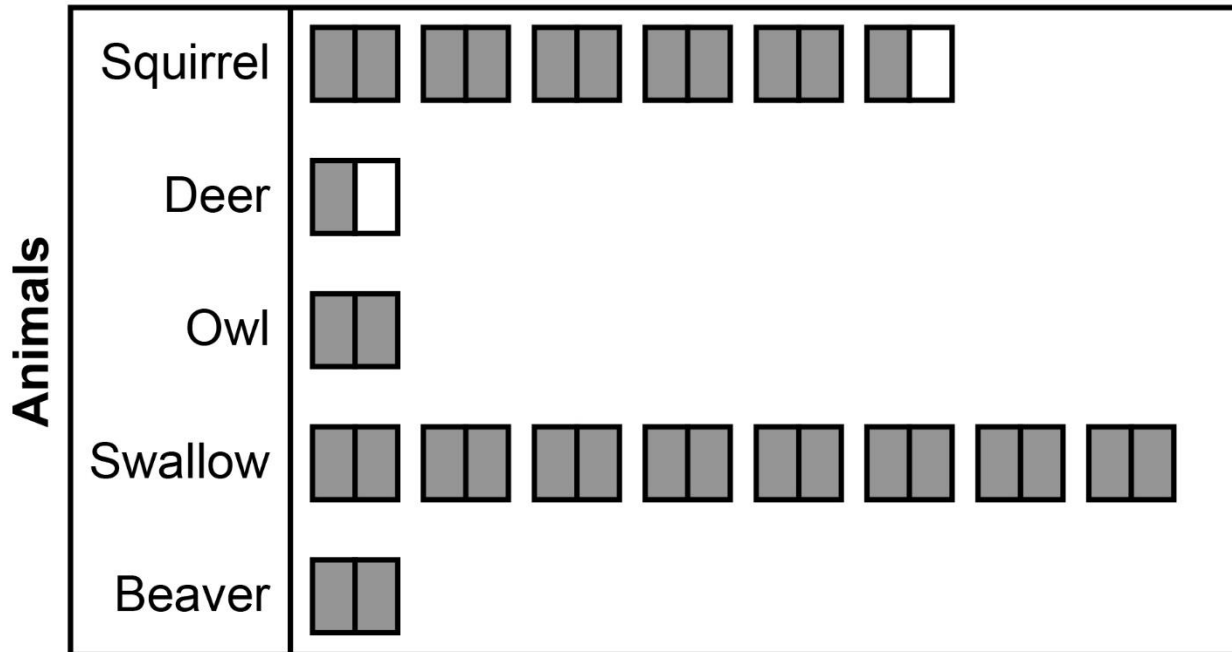
Key: ▦ = 2

Source: Gr. 2 Class at Hillsdale Elementary School

Name_____ Date _____

Graphs and Tables

Jason's Trading Cards		Type of Card	
		Game Cards	Sports Cards
Conditions	**Good**	ⵜⵜⵜ ⵜⵜⵜ ⵜⵜⵜ ⵜⵜⵜ ⵜⵜⵜ ⵏⵏⵏ	ⵜⵜⵜ ⵜⵜⵜ ⵜⵜⵜ ⵏⵏⵏⵏ
	Fair	ⵜⵜⵜ ⵏ	ⵜⵜⵜ ⵏⵏⵏⵏ
	Poor	ⵜⵜⵜ ⵏⵏⵏ	ⵜⵜⵜ ⵜⵜⵜ ⵏⵏ

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Name_____ Date _____

Class Data Recording Sheet

Our question:

_____

_____

Possible answers:

Ask your question to 10 students.
Use the tally chart to record your collected data.

Answer	**Tally**

Name_____ Date _____

Class Data Recording Sheet

Make a graph to display your collected data.

Title: _____

Label:_____
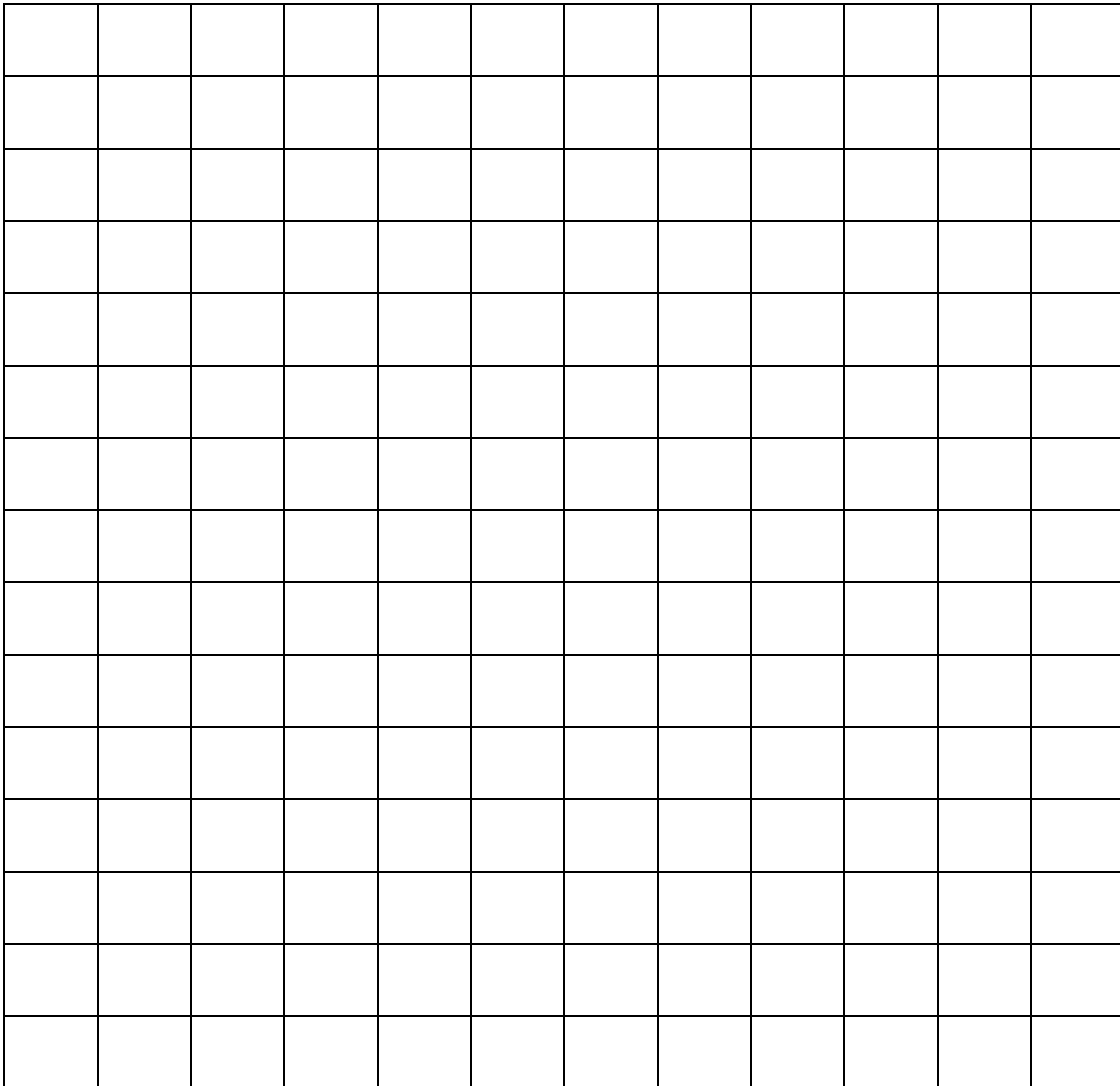
Label: _____

Source: _____

Name_____ Date _____

Class Data Recording Sheet

The mode is: _____

How do you know?

_____

_____

_____

Name_____ Date _____

Data Graphs (Accommodations)

Number of Siblings

	X	X			
	X	X			
X	X	X	X	X	X

_____

| 0 | 1 | 2 | 3 | 4 | 5 |
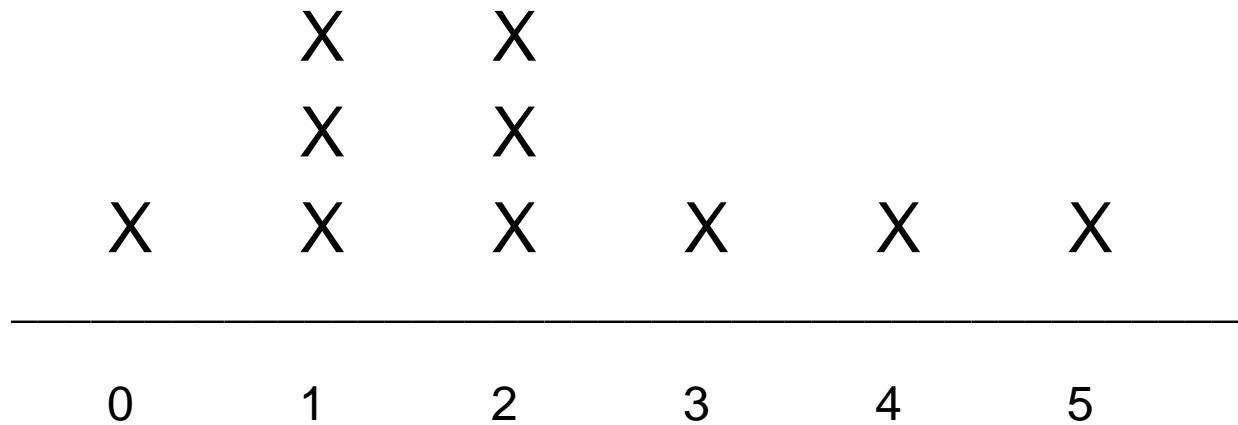
Source: Gr. 2 Class

Eye Colour

Colour

Brown	⬤ ⬤ ⬤ ⬤ ⬤
Blue	⬤ ⬤ ⬤
Green	⬤
Hazel	⬤

Key: ⬤ = 1

Source: Gr. 2 Class

Name_____ Date _____

Data Graphs (Accommodations)

Birthday Month

A bar graph showing Number of Students (y-axis, 0 to 3) versus Month (x-axis). Each month from January to December has a bar reaching 2.

January, February, March, April, May, June, July, August, September, October, November, December

Source: Gr. 2 Class

Age of Students

```
                    X
          X         X
          X         X
          X         X
    X     X         X
_____
    6     7         8
```
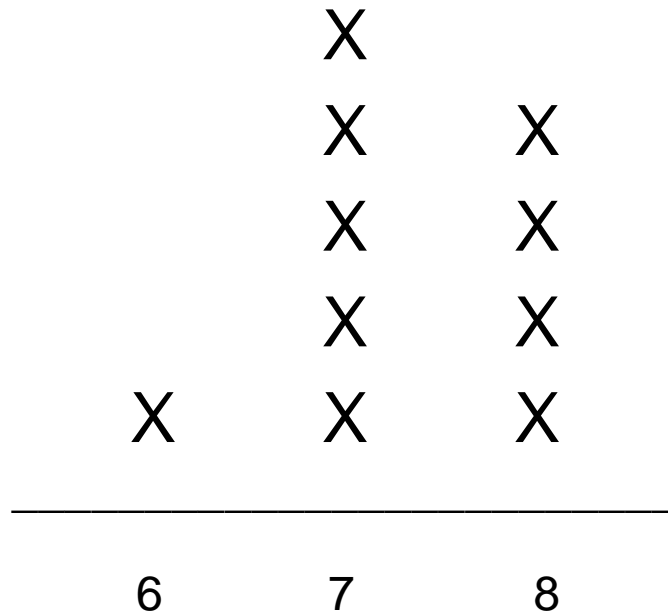
Source: Gr. 2 Class

Master 24: Activity 7 Assessment
Identifying the Mode

Identifying the Mode of a set of Data Behaviours/Strategies

1. Student identifies which categories have the most and the least, but has difficulty identifying the mode.	2. Student identifies the mode on graphs or tables that have one mode, but has difficulty when graphs have multiple modes.	3. Student identifies multiple modes, but has difficulty when graph has no mode.	4. Student flexibly identifies one mode, multiple modes, and no mode in data sets and explains what the mode(s) tells us about the data.

Animals Seen in the Woods

Squirrel, Deer, Owl, Swallow, Beaver

Key: ▓ = 2

"Swallows were seen the most, deer were seen the least."

Colour of Our Jackets

Yellow, Blue, Black, Red, Pink

0 1 2 3 4 5 6 7 8 9
Number of Students

"On this graph, I can't tell what the mode is."

Colour of Our Backpacks

Number of Students: 0 1 2 3 4 5 6 7 8

Purple, Blue, Black, Red
Colour

"There's more than one mode."

Animals Seen in the Woods

Squirrel, Deer, Owl, Swallow, Beaver

Key: ▓ = 2

"The data has one mode, 'Swallow.' It's the animal people saw the most."

Observations/Documentation

Name_____ Date _____

Trees Planted

Black Spruce	Jack Pine	Oak
‖‖‖ ‖‖‖	‖‖‖	‖‖‖

Master 26: Activity 8 Assessment
Data Management: Consolidation

Conducting Surveys Behaviours/Strategies

1. Student thinks of a topic, but is unable to formulate a question or does not include sample responses. "My favourite animal is a dog."	2. Student formulates a question, but struggles to record responses using simple records. HHT HHT "Which ice cream do you like best: chocolate or vanilla, with or without sprinkles?"	3. Student formulates a question that can be addressed through a survey and collects data in a two-way tally table, but struggles to use data to draw conclusions.	4. Student successfully formulates a question that can be addressed through a survey, collects data in a two-way tally table, and uses data to draw conclusions.

Observations/Documentation

Making, Reading, and Interpreting Graphs Behaviours/Strategies

1. Student creates a display, but struggles to translate information from tally table to graph (i.e., numbers in tally table and graph do not match).	2. Student creates a display, but bunches items together or does not space items or shaded rectangles equally.	3. Student reads displays, but struggles to interpret data to answer questions.	4. Student successfully interprets displays by noting how many more/less than other categories and identifying the mode(s).

Observations/Documentation

Curriculum Correlation
Data Management and Probability Cluster 2: Probability and Chance

Ontario

Curriculum Expectations	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Overall Expectation **D3 Probability:** describe probability in everyday situations and simple games.			

D3.1 describe probability as a measure of the likelihood that an event will occur, using mathematical language (i.e., *impossible, unlikely, less likely, equally likely, more likely, certain*)
 	
D3.2 describe the probability that an event will occur (e.g., getting heads when tossing a coin, landing on red when spinning a spinner), through investigation with simple games and probability experiments and using mathematical language
	Below Grade: Intervention
	3: The Language of Chance
	4: More or Less Likely?
	
	On Grade: Teacher Cards
	7: Likelihood of Events
	   (D3.1)
	8: Conducting Experiments
	   (D3.1, D3.2)
	9: Probability and Chance
	   Consolidation
	   (D3.1, D3.2)
	
	On Grade: Math Every Day Card 2:
	What's in the Bag?
	(D3.1, D3.2)
	Word of the Day
	(D3.1)
		Above Grade:
		• Chance
		(Activities 7, 8, 9)
			Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.
			
			Using the Language of Chance to Describe and Predict Events
			- Describes the likelihood of an event (e.g., impossible, unlikely, certain). (Activities 7, 8, 9; MED 2: 2)
			- Makes predictions based on the question, context, and data presented. (Activities 8, 9; MED 2: 1)
			- Compares the likelihood of two events (e.g., more likely, less likely, equally likely). (Activities 7, 8, 9; MED 2: 2)
			- Predicts the likelihood of an outcome in simple probability experiments or games. (Activities 8, 9; MED 2: 1)

Curriculum Correlation
Data Management and Probability Cluster 2: Probability and Chance
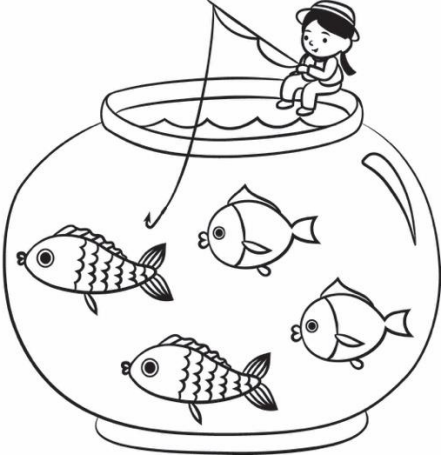
British Columbia/Yukon Territories

Learning Standards	Mathology Grade 2 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
Big Idea Concrete items can be represented, compared, and interpreted pictorially in graphs.			

D2 Likelihood of familiar life events using comparative language
 • **D2.1** using comparative language (e.g., certain, uncertain; more, less, or equally likely)
	Below Grade: Intervention
	 3: The Language of Chance
	 4: More or Less Likely?
	
	 On Grade: Teacher Cards
	 7: Likelihood of Events
	   (D2.1)
	 8: Conducting Experiments
	 9: Probability and Chance
	   Consolidation
	
	 On Grade: Math Every Day Card 2:
	 What's in the Bag?
	 Word of the Day
	 (D2.1)
		Above Grade:
		 • Chance
		   (Activities 7, 8, 9)
			Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness.
			
			 Using the Language of Chance to Describe and Predict Events
			 - Describes the likelihood of an event (e.g., impossible, unlikely, certain). (Activities 7, 8, 9; MED 2: 2)
			 - Makes predictions based on the question, context, and data presented. (Activities 8, 9; MED 2: 1)
			 - Compares the likelihood of two events (e.g., more likely, less likely, equally likely). (Activities 7, 8, 9; MED 2: 2)
			 - Predicts the likelihood of an outcome in simple probability experiments or games. (Activities 8, 9; MED 2: 1)

Master 28a   # Value-Line Events (Part 1)

Catch

Catch

Catch

Name_____ Date _____

Value-Line Events (Part 2)

Catch

Catch

Land on red

Green

Red

Value-Line Events (Part 3)

Land on blue

Blue	Blue
Blue	Red

Land on red

Blue	Blue
Blue	Red

Land on red

Red

Value-Line Events (Part 4)

Land on yellow

Green •

Get a green marble

R G G
R R
R R R
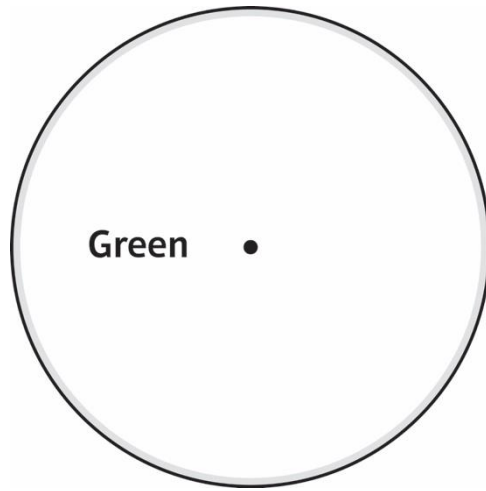
Get a yellow marble

Y Y Y
B Y
B B B

Name_____ Date _____

Value-Line Events (Part 1)
(for Accommodations)
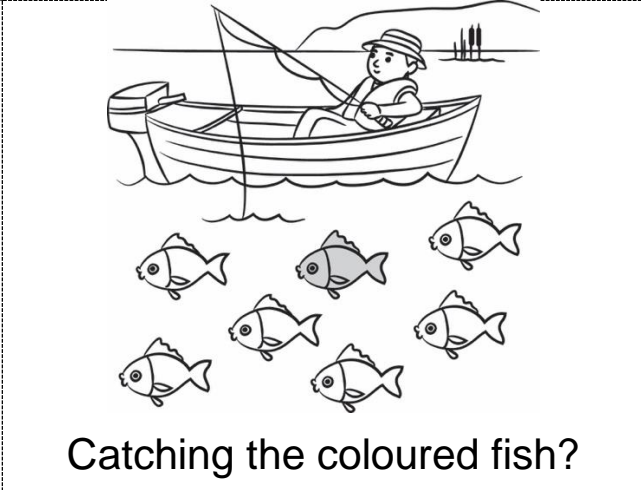
Catching the coloured fish?

We will have recess today.

We will have lunch today.
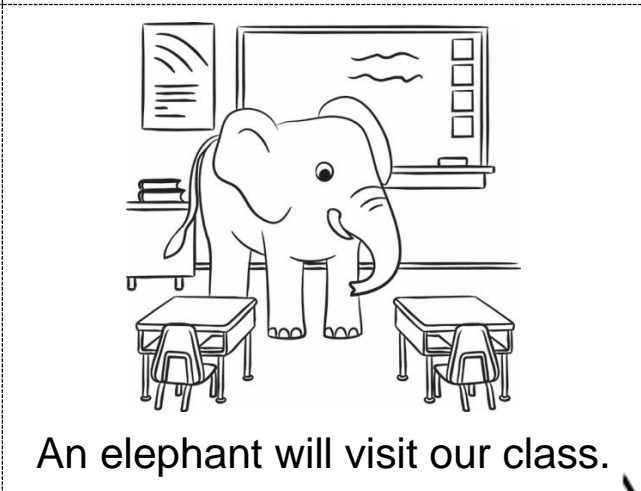
An elephant will visit our class.

Name_____ Date _____

Value-Line Events (Part 2)
(for Accommodations)

You will ride a school bus today.
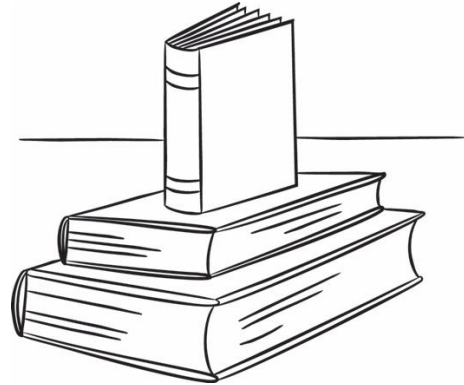
We will read today.
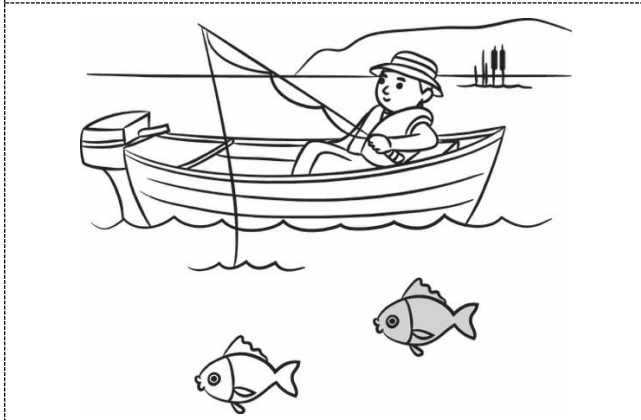
Catching the coloured fish?
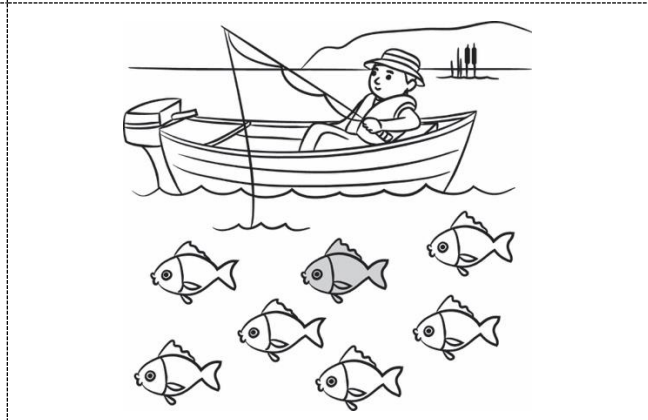
Catching the coloured fish?
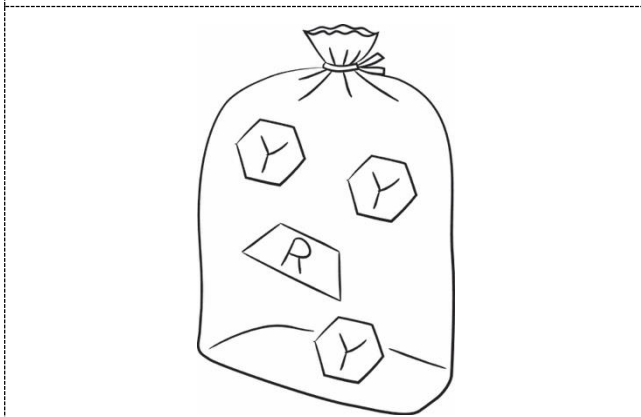
Pulling a red trapezoid?

Pulling a red trapezoid?

Name_____ Date _____
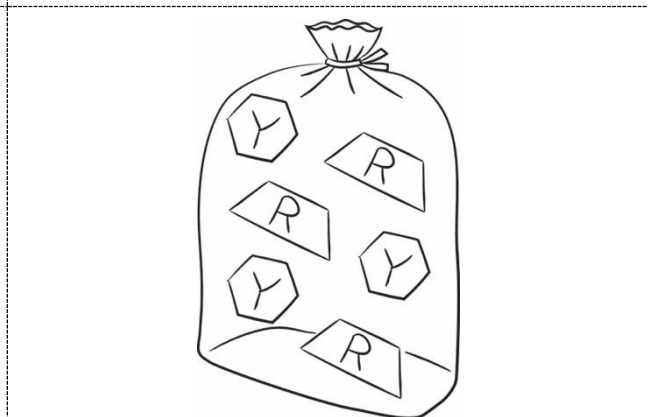
Sample Value Line

Certain

More Likely

Equally Likely

Less Likely

Impossible

Name_____ Date _____

Value-Line Words

Impossible

Certain

Master 30b

Value-Line Words

More Likely

Less Likely

Equally Likely

Master 31: Activity 9 Assessment
Likelihood of Events

Describing the Likelihood of Events Behaviours/Strategies

1. Student draws pictures randomly along the line and is unable to describe the likelihood of events.	2. Student attempts to describe the likelihood of events, but decision is based on beliefs or what he or she wants to happen. Blue / Blue / Blue / Red "This spinner will land on red because red is my favourite colour."	3. Student describes the likelihood of some events, but mixes up or misuses some chance words (e.g., mixes up *less likely* and *impossible*). Blue / Blue / Blue / Red "I know it is more likely to land on blue, but I can't explain why."
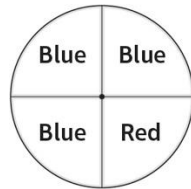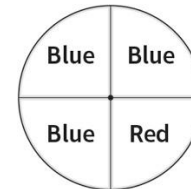
Observations/Documentation

4. Student describes the likelihood of impossible and certain events, but struggles to describe the likelihood of complementary events happening. "I'm not sure if it's more or less likely."	5. Student describes the likelihood of events and compares the likelihood of two events, but struggles to justify thinking. "I drew this for less likely because it is less likely that a dinosaur will visit our class today than the principal."	6. Student describes the likelihood of events, compares the likelihood of two events, and justifies thinking. "I drew a coin for equally likely because there is one head and one tail."

Observations/Documentation
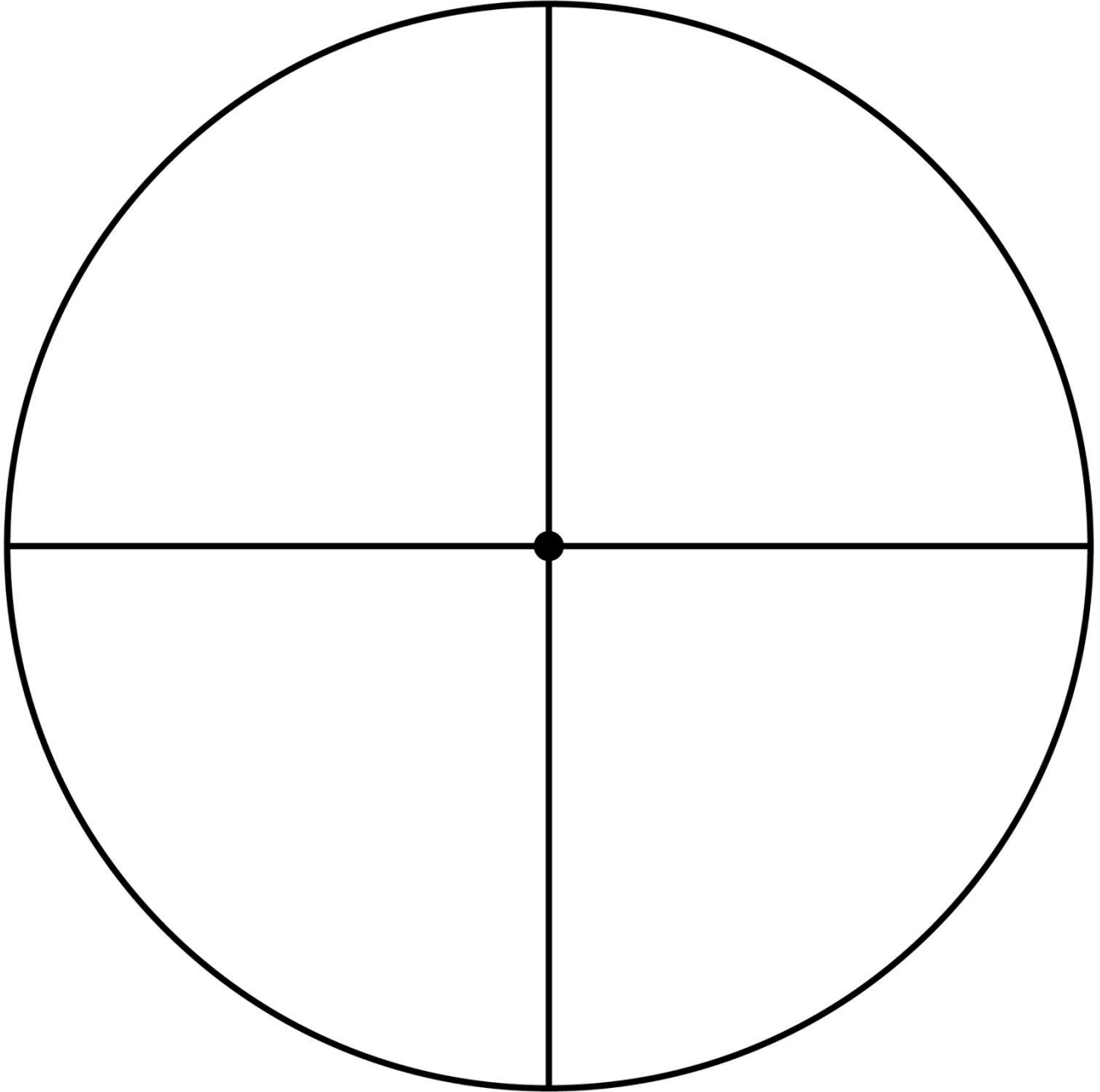
Name_____ Date _____
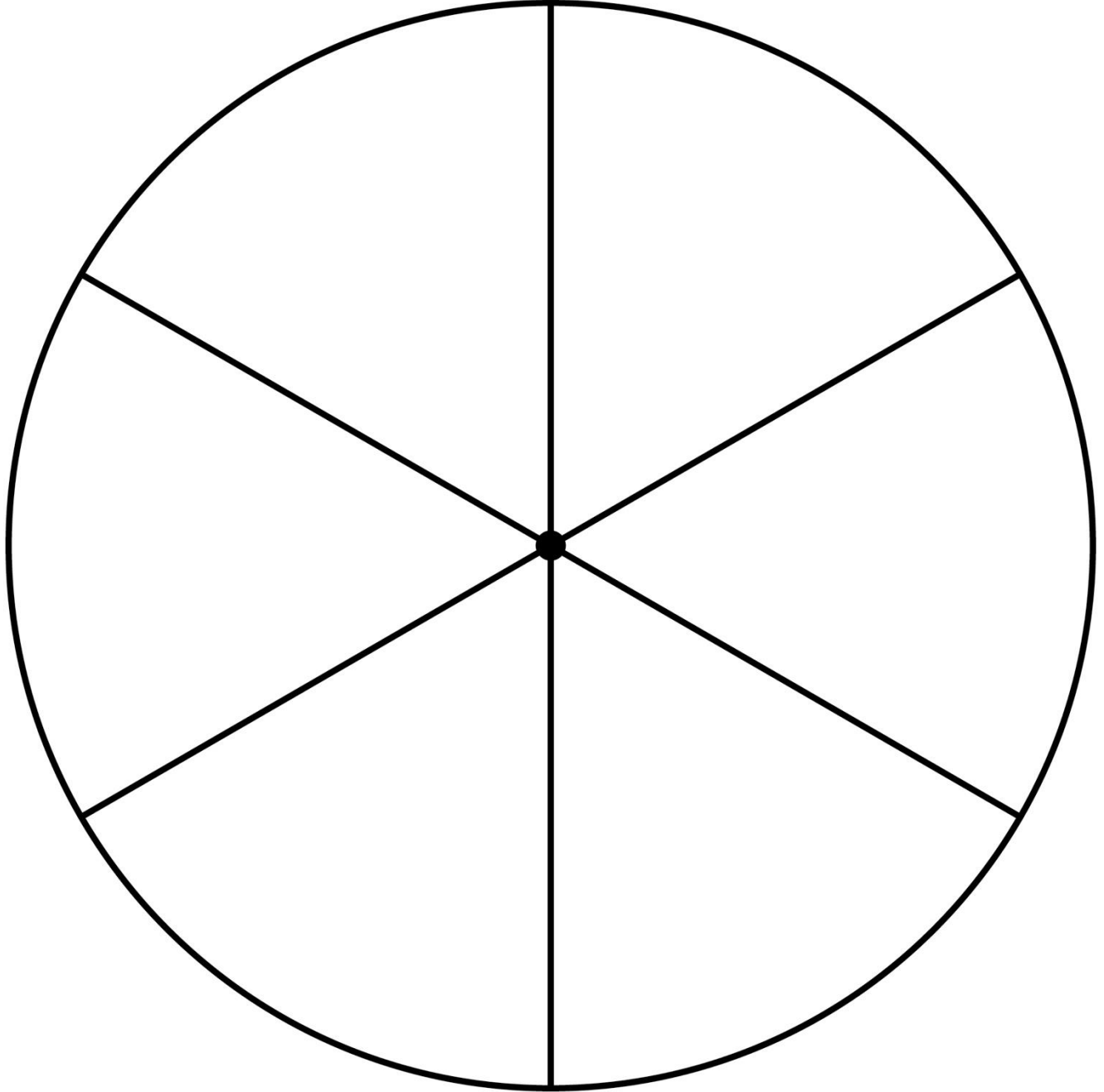
Spinner Templates

Spinner Templates

Name_____ Date _____

Spinner Templates
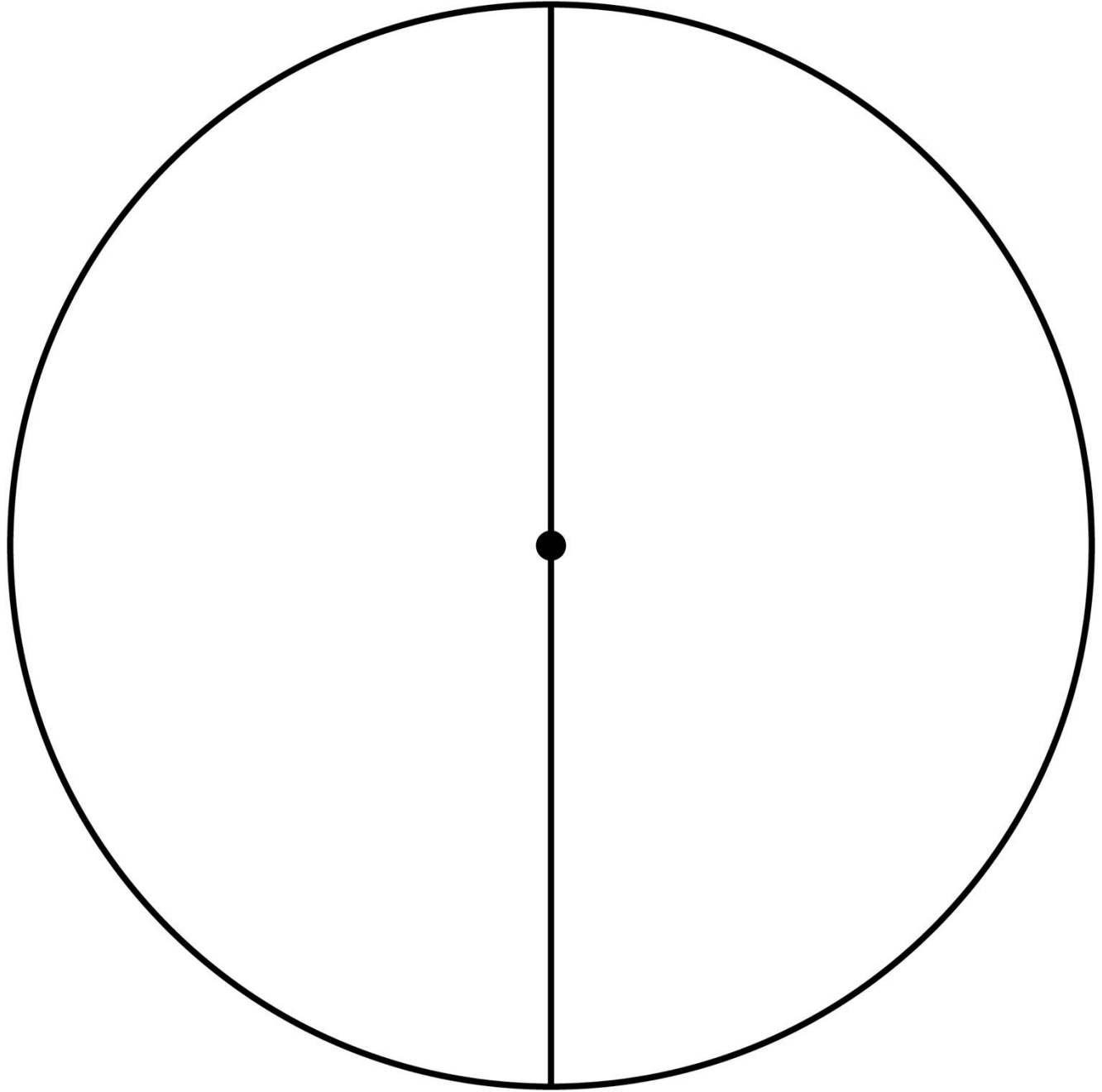
Name_____ Date _____

Recording Sheet

Colour	Tally	Total

Complementary events: _____

Likelihood of them happening: _____

Show your thinking using pictures or words:

Master 34 # Probability Cards

Note: Cards for bags of counters are for Part A of activity.
Cards for spinners are for Part B of activity.

Bag with
- 5 red counters
- 5 yellow counters

Bag with
- 2 blue counters
- 8 green counters

Bag with
- 3 yellow counters
- 1 blue counter
- 6 green counters
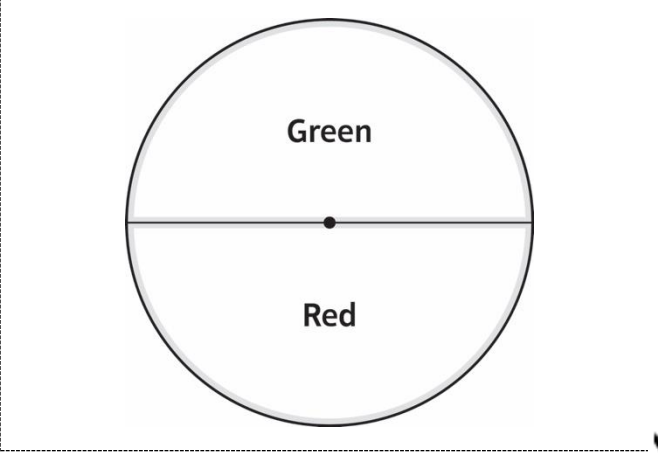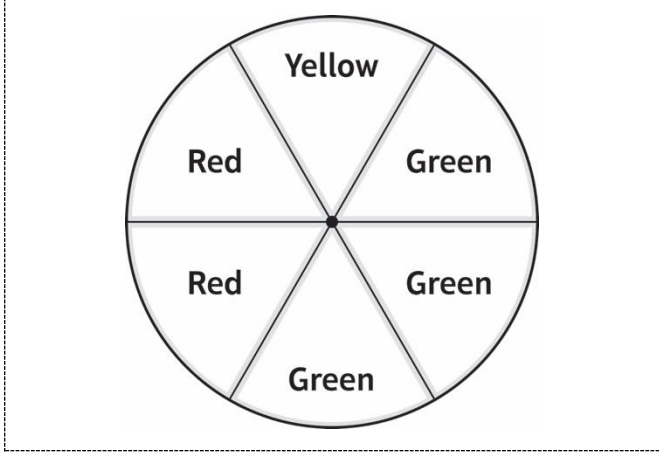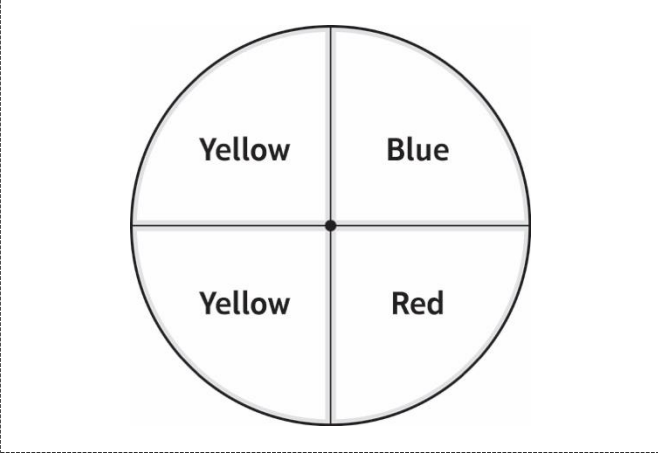
Master 35: Activity 10 Assessment
Conducting Experiments

Exploring the Likelihood of Events Behaviours/Strategies

1. Student creates a bag or spinner, but is unable to use a chance word to describe the likelihood of events and/or complementary events.	2. Student uses a chance word to describe the likelihood of events, but decision is based on beliefs or what he or she wants to happen. "It is more likely that the pointer will land on yellow because yellow is my favourite colour."	3. Student uses a chance word to describe the likelihood of events, but always uses *impossible* or misuses some chance words (e.g., mixes up *more likely* and *certain*). "It is certain that the pointer will land on green because there are more green parts."
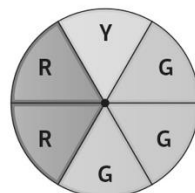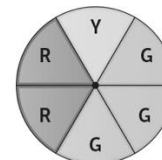
Observations/Documentation

4. Student uses a chance word to describe the likelihood of events, but struggles to justify thinking. "It is more likely that the pointer will land on green, but I don't know how to explain it."	5. Student describes the likelihood of events, but does not understand why results of experiment do not match prediction. "It is equally likely, but I got 12 green and 8 red. What did I do wrong?"	6. Student successfully describes the likelihood of events and performs simple experiments to verify predictions.
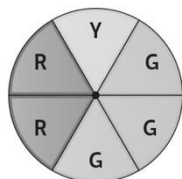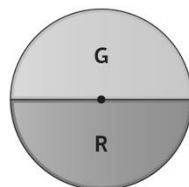
Observations/Documentation

Name_____ Date _____

Name_____ Date _____

Spinner Templates (for *Extension*)

Name_____ Date _____

Spinner Templates (for *Extension*)

Mathology 2
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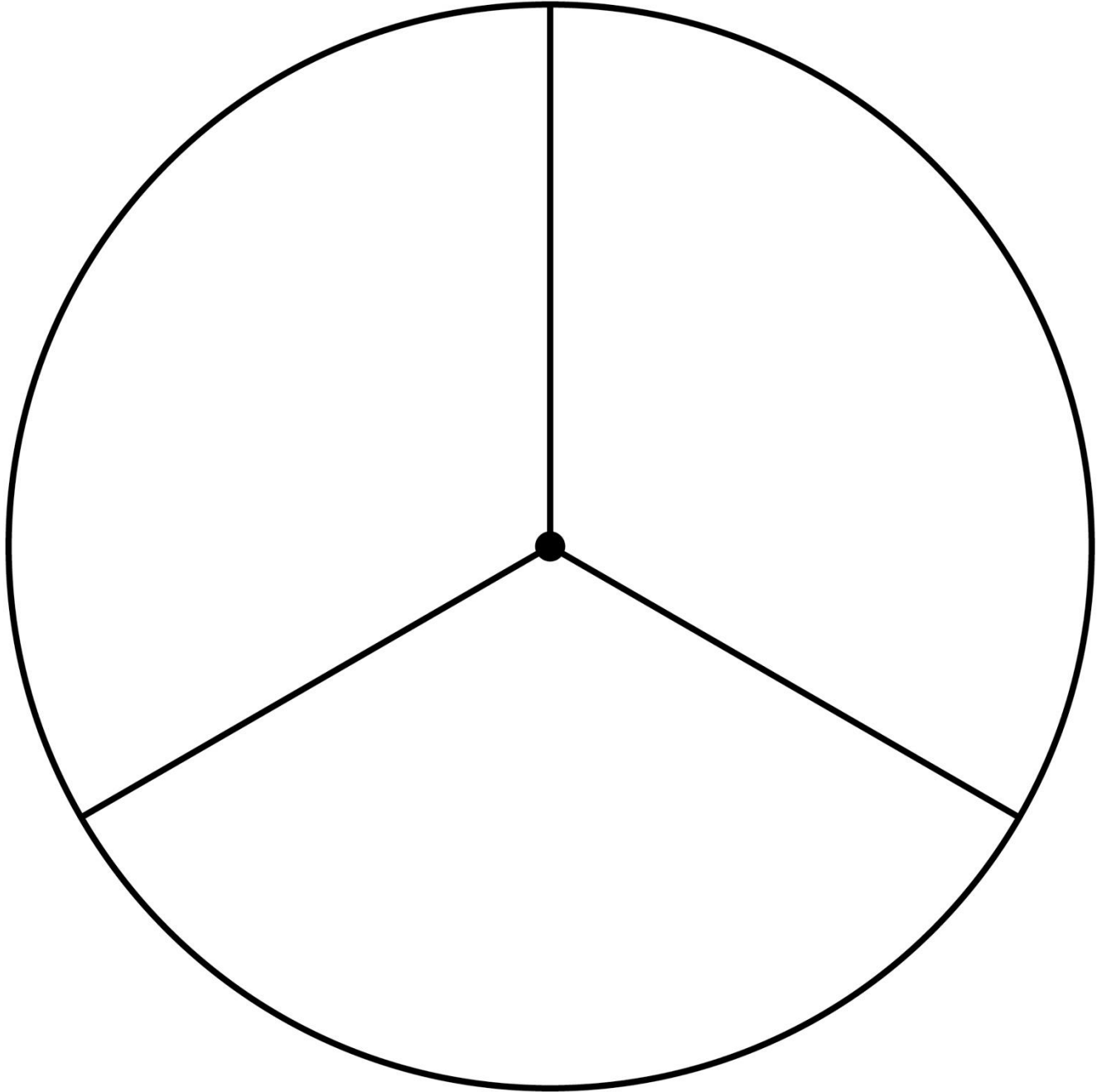
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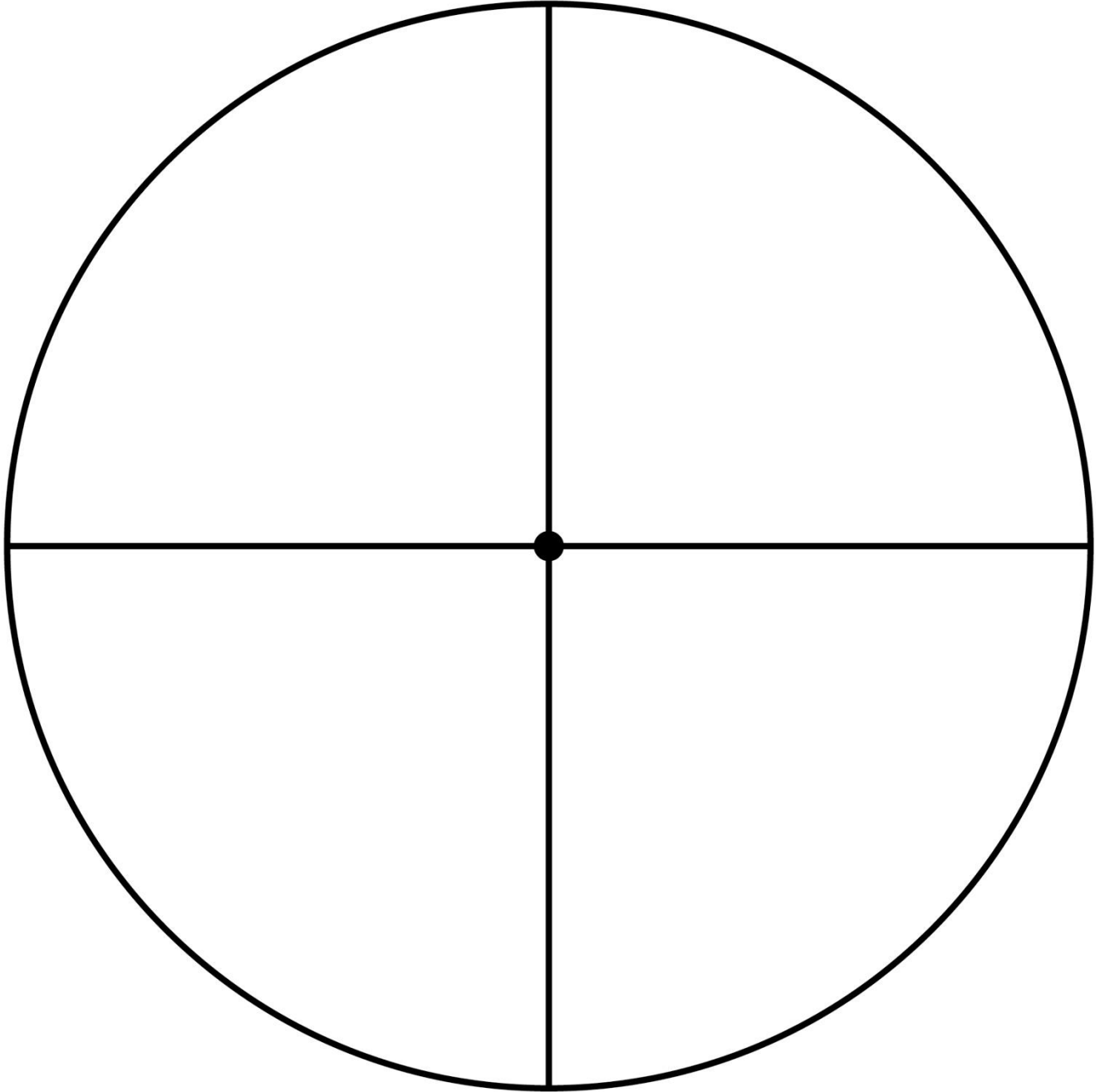
Spinner Templates (for *Extension*)
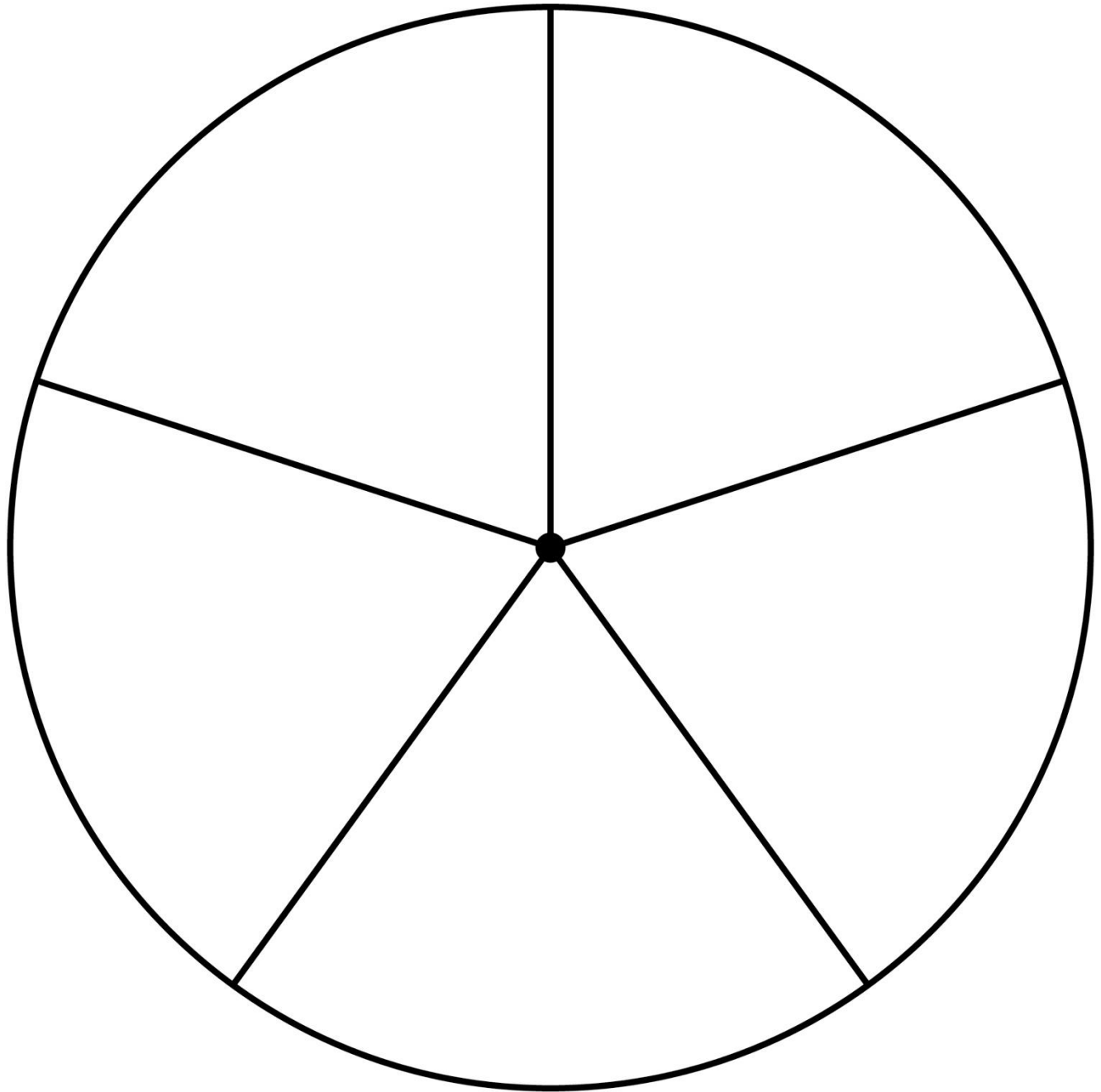
Name_____ Date _____

Spinner Templates (for *Extension*)

Name_____ Date _____
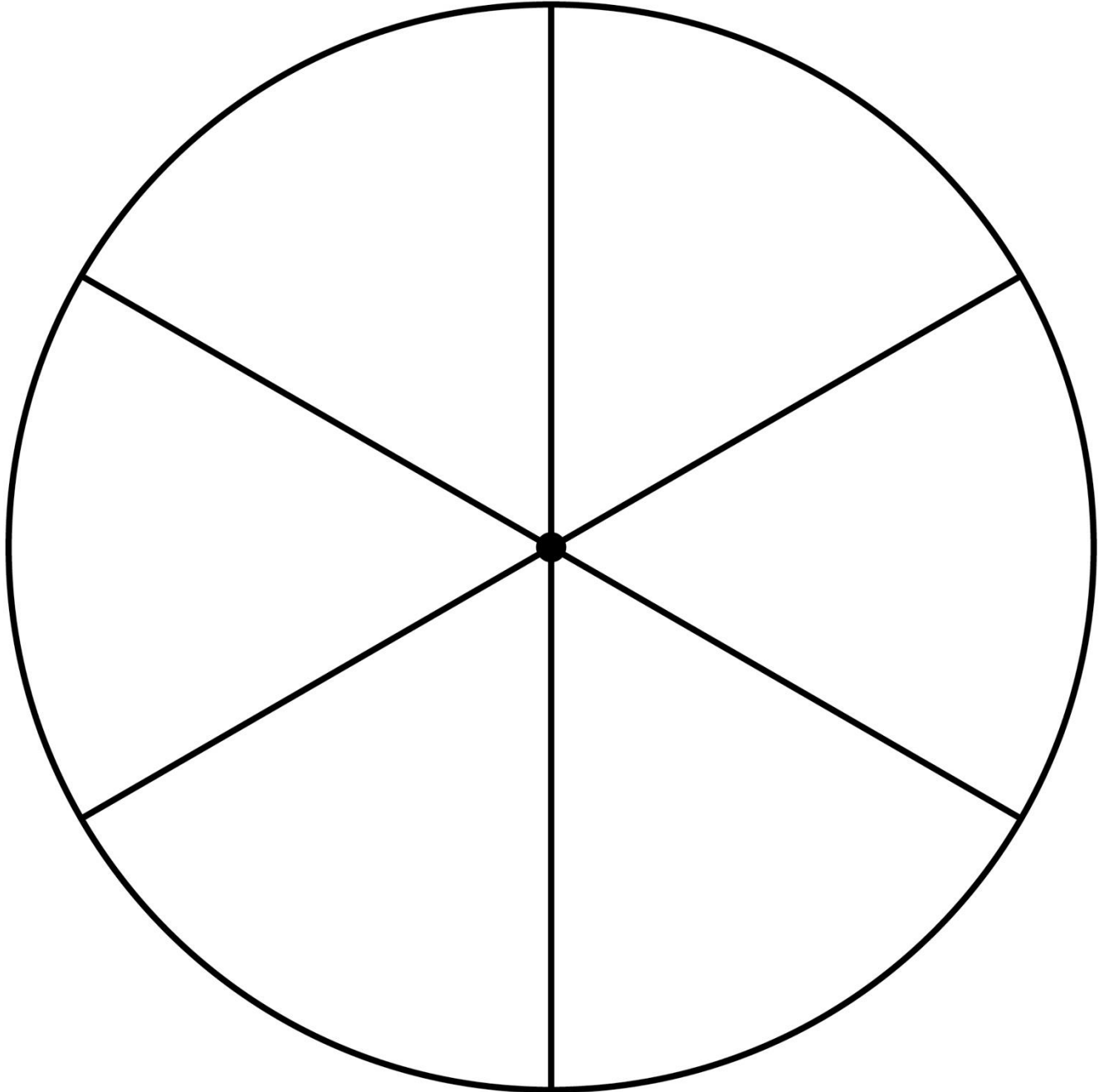
Chance Cards

Make a bag where the likelihood of taking a red counter is **impossible**.	Make a bag where the likelihood of taking a red counter is **certain**.
Make a bag where the likelihood of taking a red counter is **less likely**.	Make a bag where the likelihood of taking a red counter is **more likely**.
Make a bag where the likelihood of taking a red counter is **equally likely**.	

Name_____ Date _____

Chance Cards (for *Extension*)

Make a spinner where the likelihood of landing on blue is **impossible**.	Make a spinner where the likelihood of landing on blue is **certain**.
Make a spinner where the likelihood of landing on blue is **less likely**.	Make a spinner where the likelihood of landing on blue is **more likely**.
Make a spinner where the likelihood of landing on blue is **equally likely**.	

Exploring the Likelihood of Events Behaviours/Strategies

1. Student reads card, but struggles to understand chance word used to describe likelihood of event.	2. Student knows chance word used to describe likelihood of event, but does not know where to start to make matching bag. "How do I to make a bag where a red counter is more likely?"	3. Student knows chance word and makes matching bag, but thinks only one bag is possible. "My friend has the same card and he made a different bag. He's wrong."
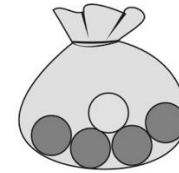
Observations/Documentation

4. Student describes the likelihood of events and makes matching bag, but struggles to describe the likelihood of complementary events happening. "I made this bag to show grey is more likely, but I'm not sure about white."	5. Student successfully describes the likelihood of events and makes matching bag, but does not understand why results of experiment do not match prediction. "I made this bag to show grey is more likely, but I'm not sure about white."	6. Student successfully describes the likelihood of events, makes matching bag, and performs simple experiments to verify predictions.
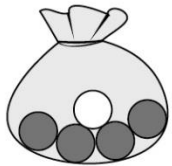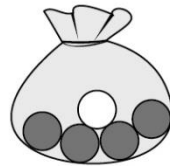
Observations/Documentation

Intervention: Master 1

Memories of Mooshoom and Noohkoom (A Métis Story)

By Amanda Norton and Jillian Laursen

When I was a young girl, I would go up north to visit my
Mooshoom (grandfather) and Noohkoom (grandmother).
Many of my fondest memories are when we would go
fishing together.

My Mooshoom would throw out his net; it was amazing.
He would catch 40 or more fish in a morning.
My siblings and I would line up the fish.
We counted them by 2s to help us count faster.
The fish just kept coming in.

My Noohkoom would take two fish and put them on two
birch branches.
She would cook them on the open fire.
With the fish, we always ate Noohkoom's famous bannock.

While Noohkoom was making lunch, we would help Mooshoom
clean the fish.
We put them in packages of 5 to sell when we returned to the city.

Master 2: Intervention Activity 1 Assessment
Skip-Counting with Objects

Skip-Counting with Objects Behaviours/Strategies		
1. Student successfully counts by 1s, but struggles to partition into and skip-count by equal-sized units as he or she does not associate the skip-counting number with a quantity. "Why do I count by 5s?"	2. Student partitions into and skip-counts by equal-sized units to 10, but struggles to know which number comes next. "2, 4, 6, 8, 10, ?"	3. Student partitions into and skip-counts by equal-sized units, but mixes up the numbers in the skip-counting sequence. "10, 20, 40, 30, 50"
Observations/Documentation		
4. Student partitions into and skip-counts by equal-sized units, but does not recognize that the last counting number tells how many. "10, 20, 30, 40, 50 I'm not sure how many there are."	5. Student partitions into and skip-counts by equal-sized units, but does not recognize that the results will be the same no matter how the objects are counted. "There were 50 when I counted by 2s. I'm not sure how many there will be when I count by 5s."	6. Student partitions into and skip-counts by equal-sized units and recognizes that the results will be the same no matter how the objects are counted.
Observations/Documentation		

Name _____ Date _____

Three Rows of Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

Intervention: Master 4

Five Rows of Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Master 5: Intervention Activity 2 Assessment
Skip-Counting Backward

Skip-Counting Backward Behaviours/Strategies

1. Student takes away cubes, but struggles to skip-count backward by factors of 10 (i.e., 2, 5) as he or she does not associate the skip-counting number with a quantity.	2. Student counts back by 1s instead of skip-counting backward by factors of 10. □□□□□□□□□□ □□□□□ 16 17 18 19 20 "19, 18, 17, 16, 15"	3. Student skip-counts backward by factors of 10, but does not recognize that the last counting number tells how many. "I'll count the number of cubes left on the chart by 1s."

Observations/Documentation

4. Student skip-counts backward by factors of 10, but relies on the numbers shown on the chart. □□□□□□□□□□ □□□□ 15 16 17 18 19 20 □ "20, 15"	5. Student skip-counts backward by factors of 10, but finds one sequence (2s or 5s) easier than the other. "It's harder to count back by 2s."	6. Student fluently skip-counts backward by factors of 10 (i.e., 2, 5). "20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 0" "30, 25, 20, 15, 10, 5, 0"
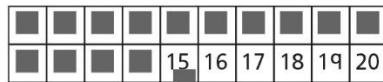
Observations/Documentation

Intervention: Master 6a   # Domino Cards
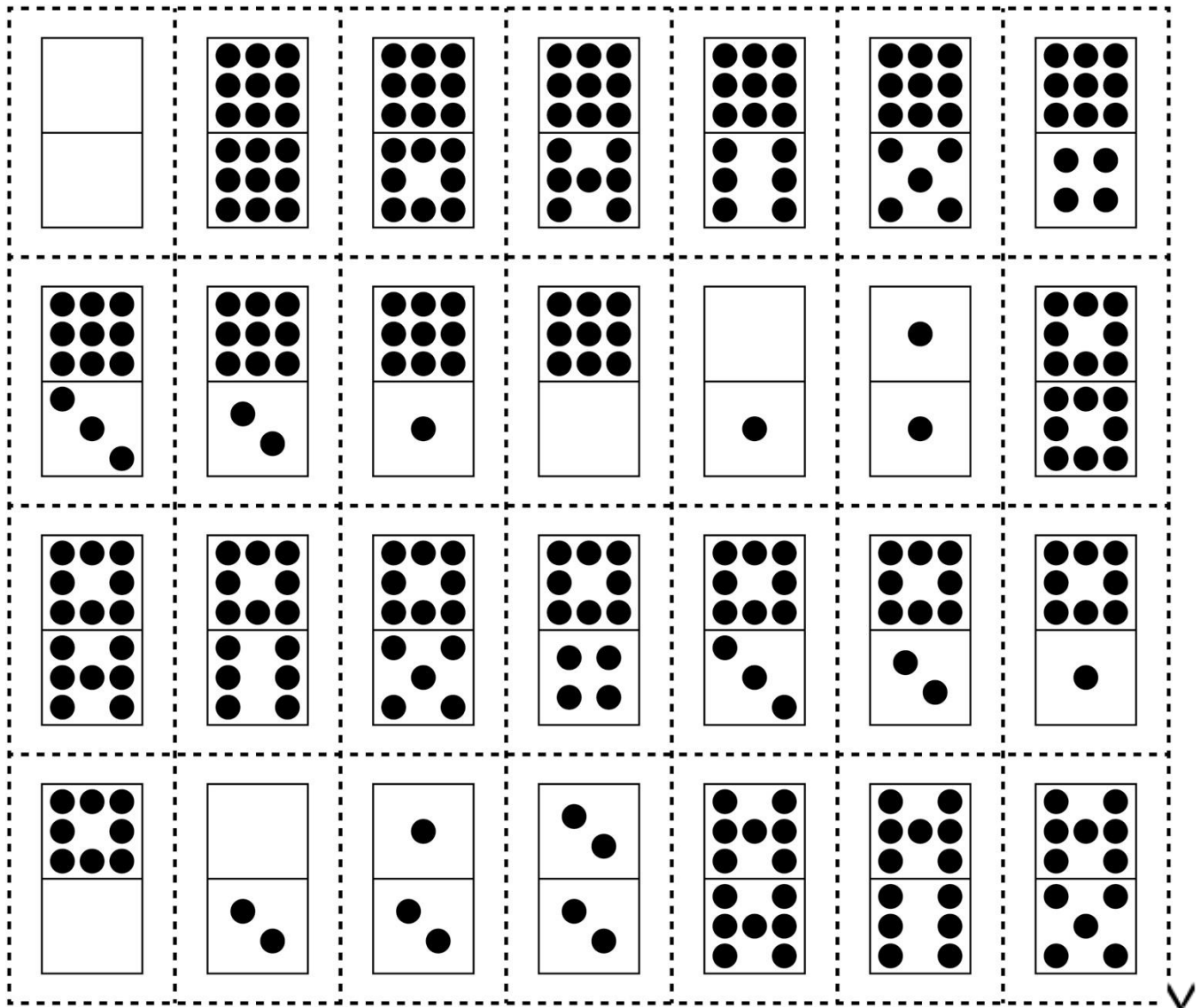
Intervention: Master 6b **Domino Cards**
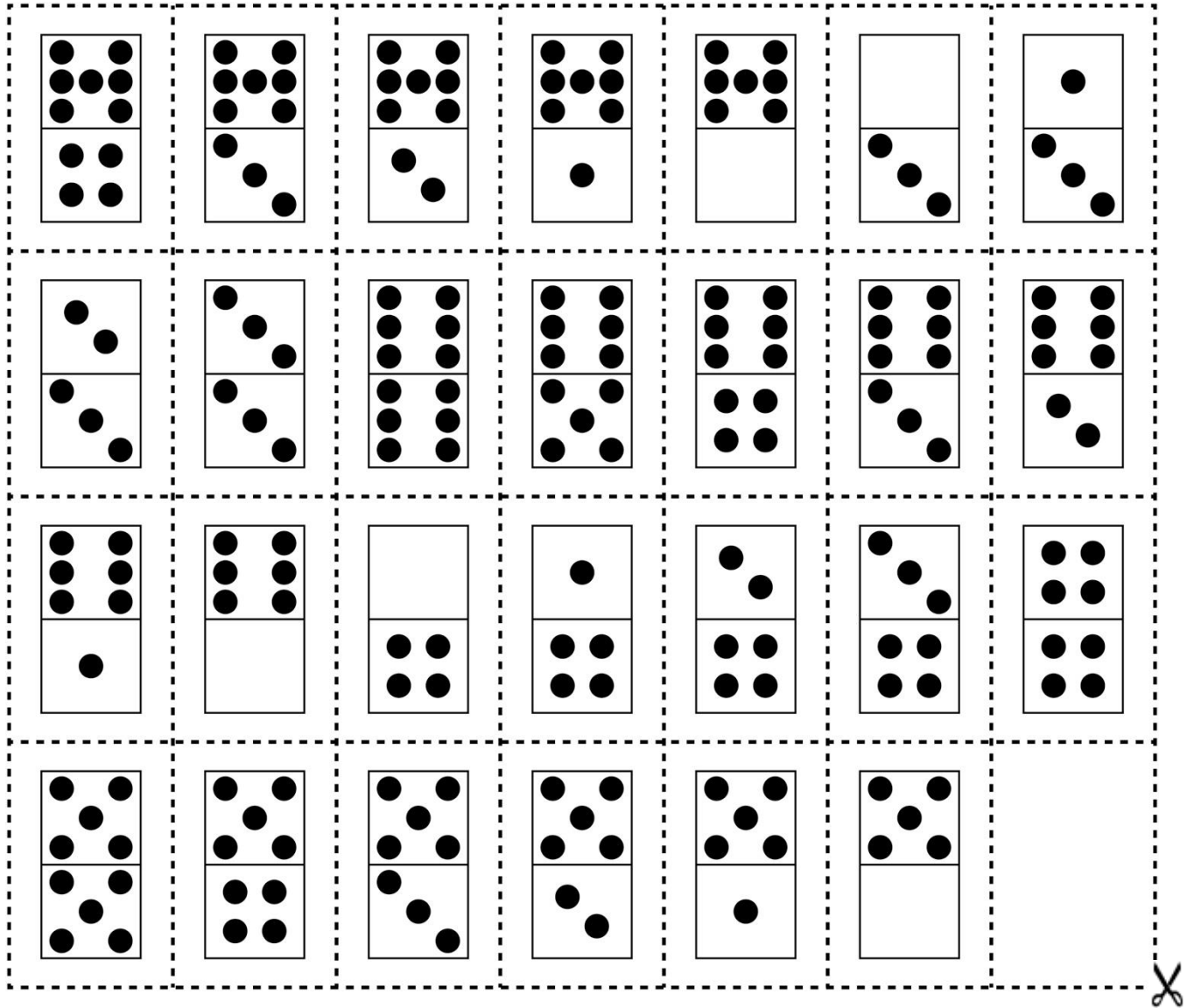
Master 7: Intervention Activity 3 Assessment
Who Has More?

Comparing Quantities to 10 Behaviours/Strategies

1. Student turns over a domino, but struggles to say the number sequence starting with 1 and counting forward. "1, 2, 4, 6, 5, 7"	2. Student says the number sequence forward, but struggles to coordinate number words with counting actions (e.g., loses track of the count, misses dots in the count, or counts dots more than once). "2, 3"	3. Student perceptually compares the quantities. "This side looks like it has more."	4. Student compares quantities using one-to-one matching.
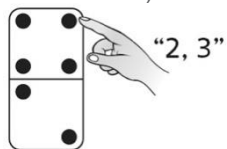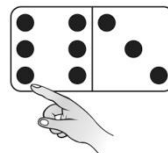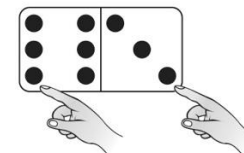
Observations/Documentation
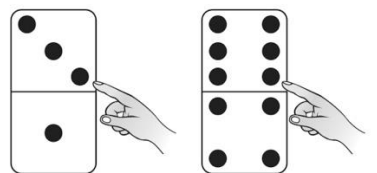
5. Student compares quantities using counting. "1, 2, 3" "1, 2, 3, 4, 5, 6"	6. Student uses grouping to compare quantities without counting by 1s (conceptual subitizing). "2 groups of 3 dots" "3 dots"	7. Student compares quantities using benchmarks. "6 is 1 more than 5. 3 is 2 less than 5."	8. Student uses mental strategies to successfully and efficiently compare quantities to 10. 1 2 3 4 5 6 7 8 9 10 "6 comes after 3 on a number line."
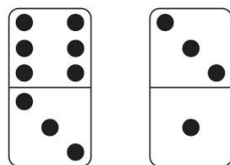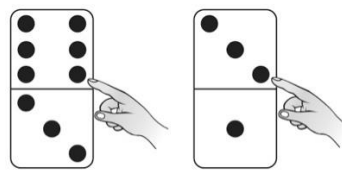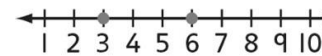
Observations/Documentation

Name_____ Date _____

Adding Tens Recording Sheet

Start Number	Number of Tens Added	End Number

Master 9: Intervention Activity 4 Assessment
Adding Tens

Determining 10 or Multiples of 10 More Behaviours/Strategies		
1. Student counts three times to determine 10 or multiples of 10 more than a number (models with counters/cubes). "1, 2, 3, …, 13, 14, 15" "1, 2, 3, …, 23, 24, 25" "1, 2, 3, …, 8, 9, 10"	2. Student counts on to determine 10 or multiples of 10 more than a number (models with counters/cubes). "16, 17, 18, …, 23, 24, 25"	3. Student counts on by ones on a hundred chart to determine 10 or multiples of 10 more than a number. "24 and 20 is 44."
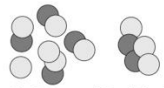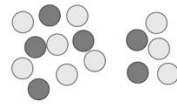
Observations/Documentation		

| 4. Student takes jumps of 10 forward on a hundred chart to determine 10 or multiples of 10 more than a number, but does not recognize how the tens digit changes.

"24 and 2 tens is 44. I don't see any patterns." | 5. Student takes jumps of 10 forward on a hundred chart to determine 10 or multiples of 10 more than a number and recognizes that the tens digit increases by 1 for each ten added.

"I added 2 tens and the tens digit increased by 2." | 6. Student fluently determines 10 or multiples of 10 more than a number without using the hundred chart. |

Observations/Documentation		

Name_____ Date _____

Taking Away Tens **Recording Sheet**

Start Number	Number of Tens Taken Away	End Number

Master 13: Intervention Activity 6 Assessment
Taking Away Tens

Determining 10 or Multiples of 10 Less Behaviours/Strategies
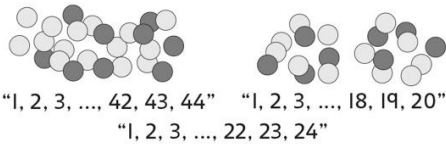
1. Student counts three times to determine 10 or multiples of 10 less than a number (models with counters/cubes).	2. Student counts back to determine 10 or multiples of 10 less than a number (models with counters/cubes).	3. Student counts back by ones on a hundred chart to determine 10 or multiples of 10 less than a number.
"1, 2, 3, …, 42, 43, 44" "1, 2, 3, …, 18, 19, 20" "1, 2, 3, …, 22, 23, 24"	"44" "43, 42, 41, …, 26, 25, 24"	"76 take away 20 is 56."
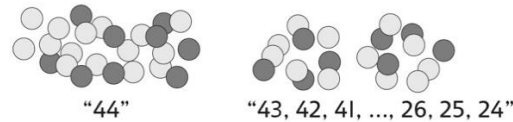
Observations/Documentation

4. Student takes jumps of 10 backward on a hundred chart to determine 10 or multiples of 10 less than a number, but does not recognize how the tens digit changes.	5. Student takes jumps of 10 backward on a hundred chart to determine 10 or multiples of 10 less than a number and recognizes that the tens digit decreases by 1 for each ten taken away.	6. Student fluently determines 10 or multiples of 10 less than a number without using the hundred chart.
"76 take away 2 tens is 56. I don't see any patterns."	"I took away 2 tens and the tens digit decreased by 2."	

Observations/Documentation

Name_____ Date _____

Paper Square
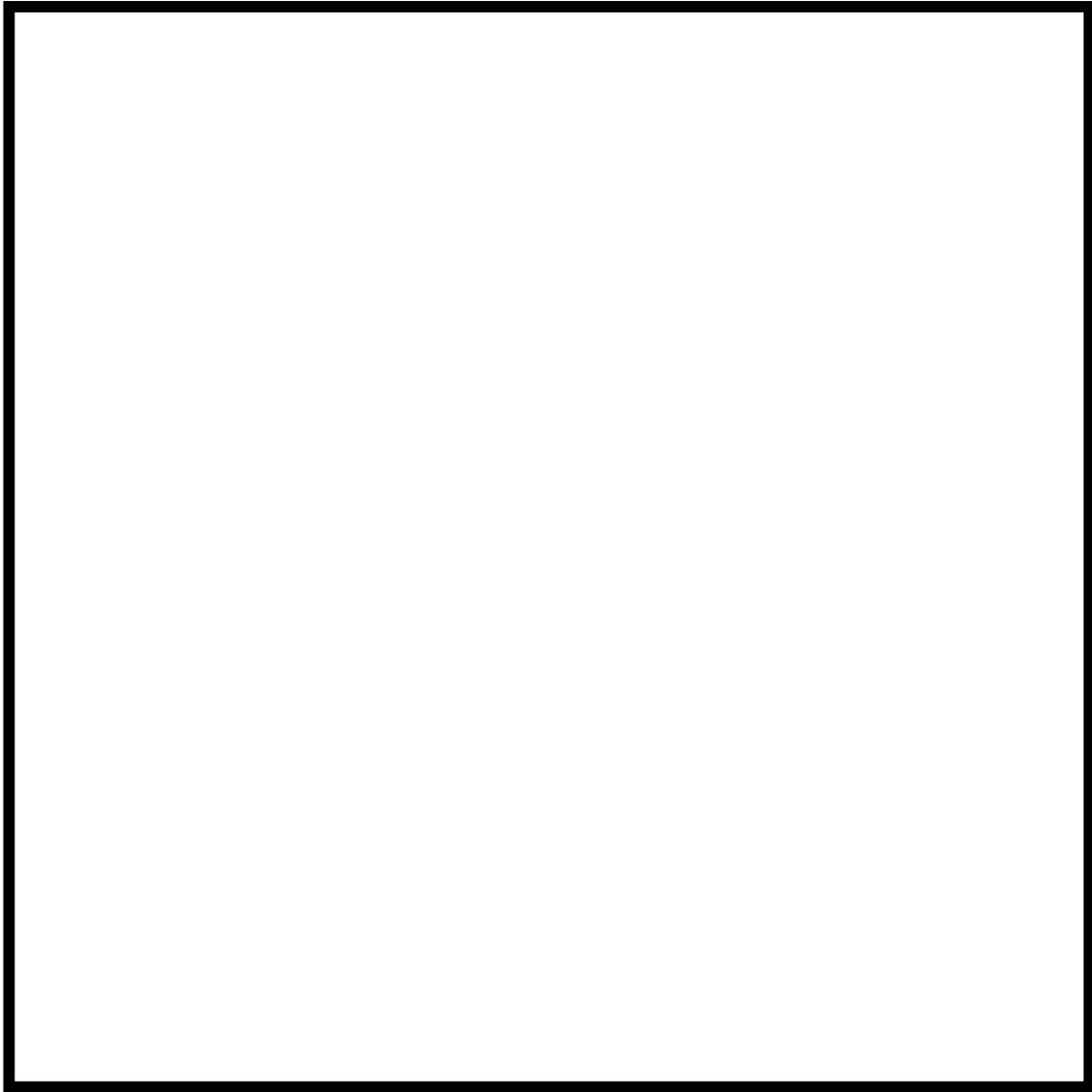
Intervention: Master 13   **Rectangles**

Name_____ Date _____

Paper Strip
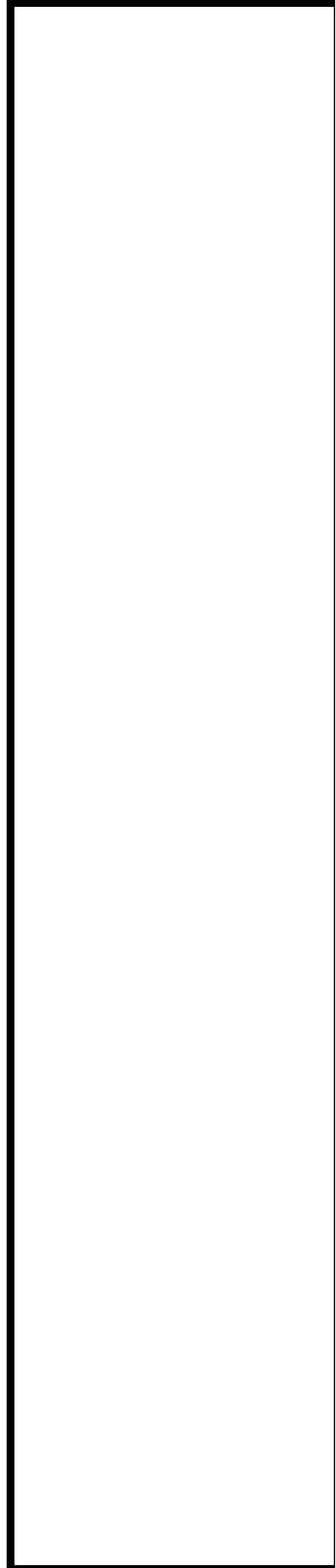
Master 15: Intervention Activity 6 Assessment
Exploring Equal Parts

Partitioning Wholes into Equal Parts Behaviours/Strategies

1. Student chooses an item, but struggles to partition it into equal parts, and parts are not all equal.	2. Student partitions wholes into equal parts, but thinks that when the parts are not equal, they still represent halves, fourths, and eighths.	3. Student partitions wholes into 2 and 4 equal parts, but struggles to partition wholes into 8 equal parts.
	"I folded it into 4 unequal fourths."	
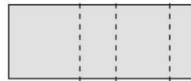
Observations/Documentation
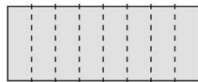
4. Student partitions wholes into equal parts, but struggles to name the unit (does not know fraction words).	5. Student partitions wholes into equal parts, but thinks that equal parts of different wholes should be the same size.	6. Student successfully partitions wholes into equal parts and names the unit.
"I don't know what each part is."	"They both show fourths, so they should be the same size."	

Observations/Documentation

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Name_____ Date _____

Paper Square Showing Fourths
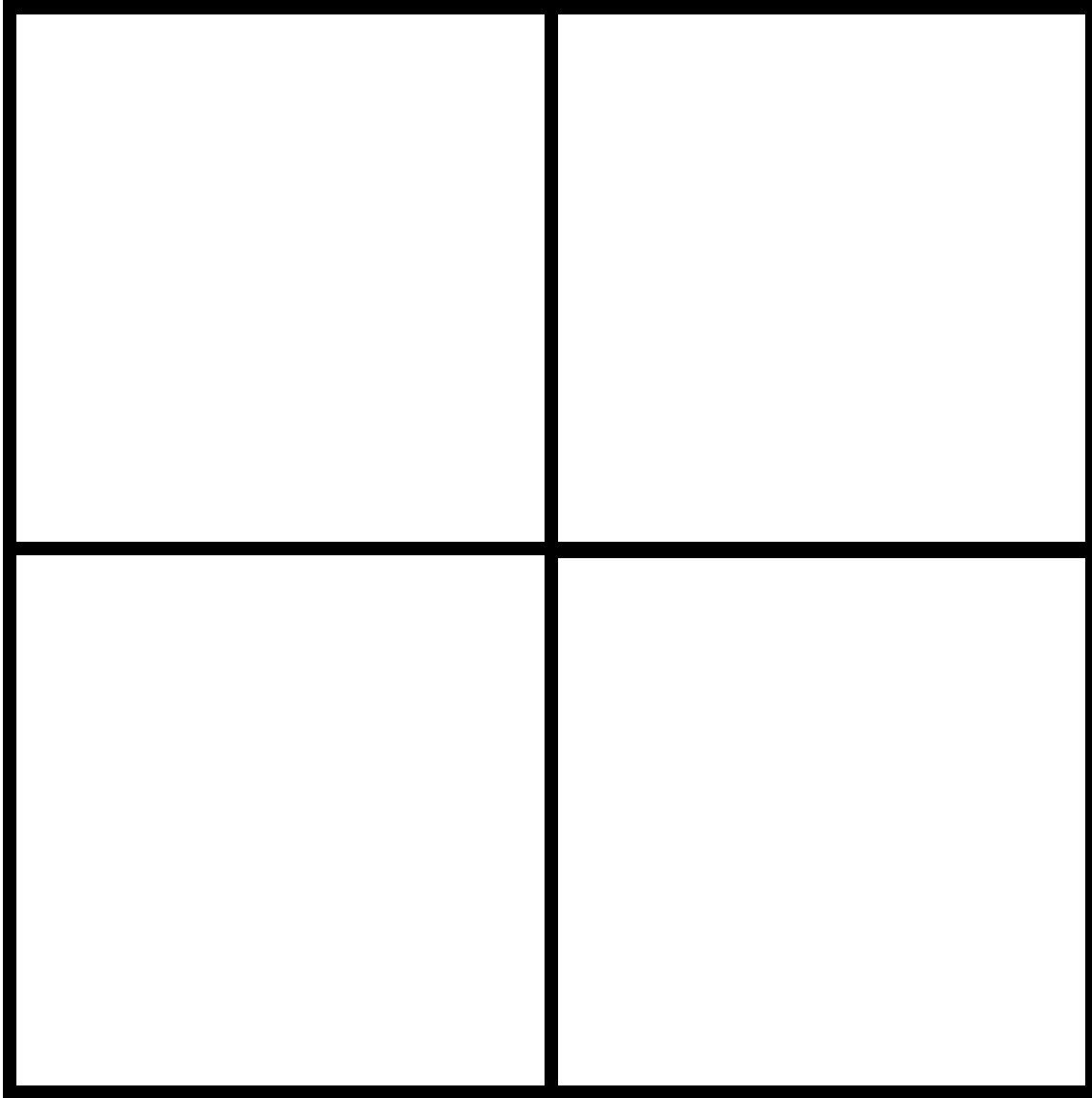
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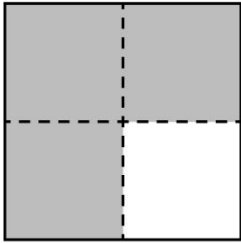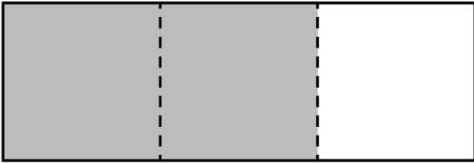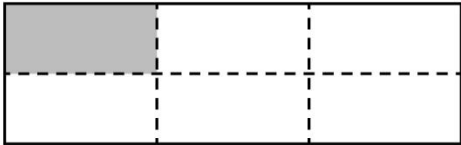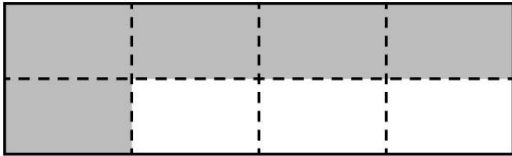
Paper Rectangle Showing Thirds

Name_____ Date _____
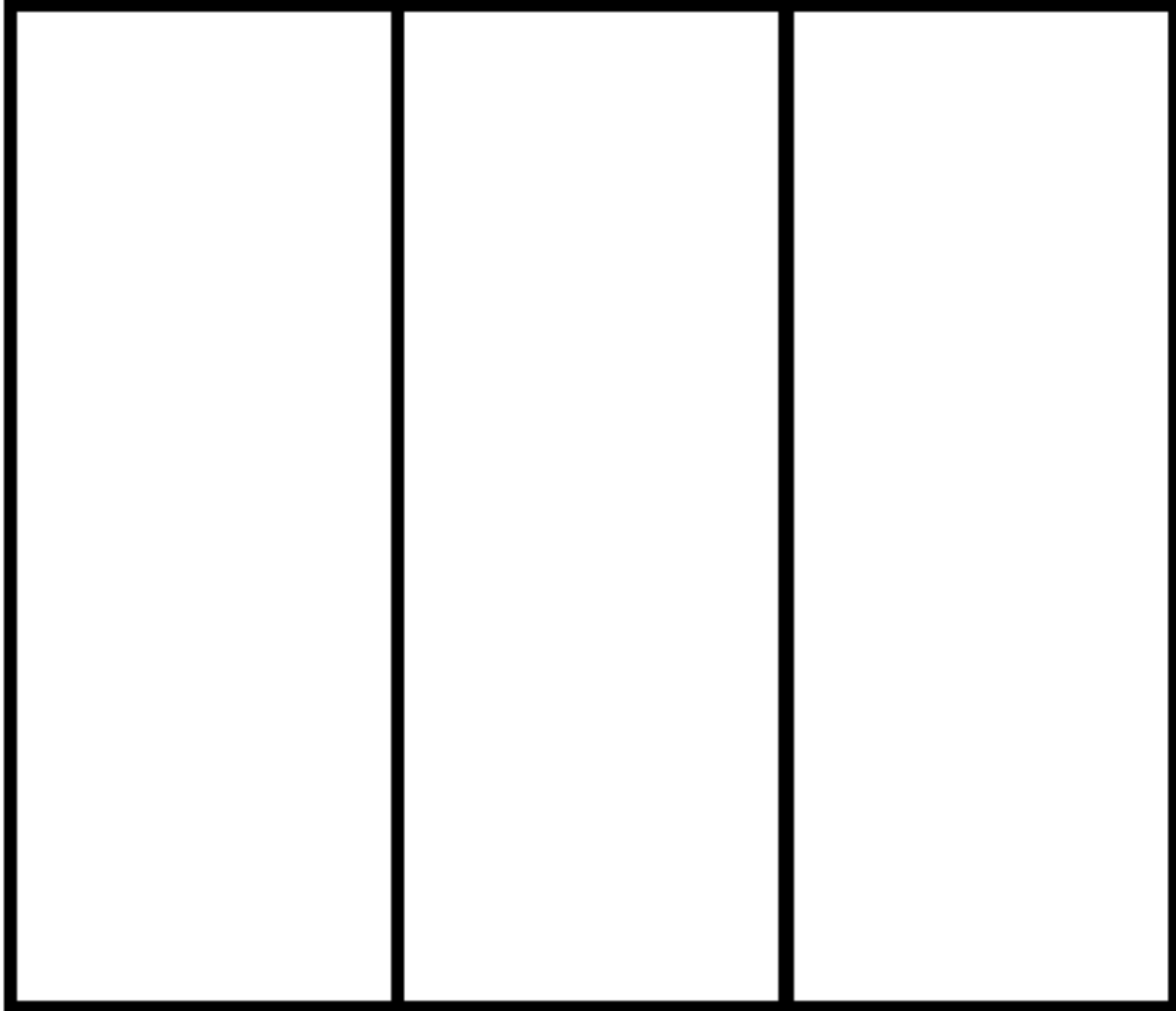
Matching Cards

	Three fourths
	Two thirds
	Four sixths
	One sixth
	Five eighths

Intervention: Master 18b # Matching Cards
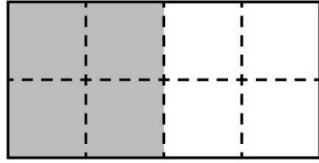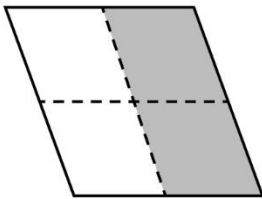
	Four eighths
	Two fourths
	One third
	Two thirds
	One sixth
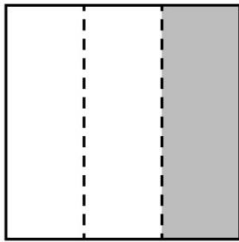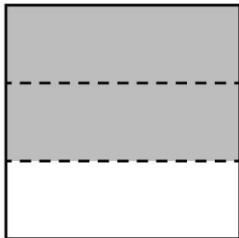
Name_____ Date _____
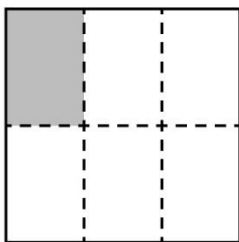
Matching Cards
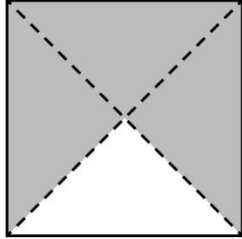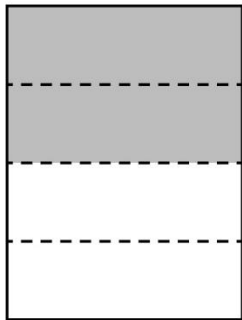
	Three fourths
	Two fourths
	Five eighths
	Four eighths
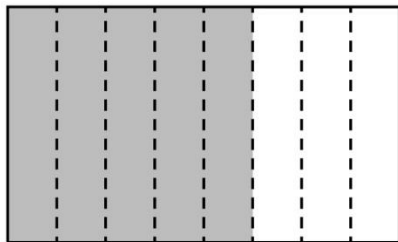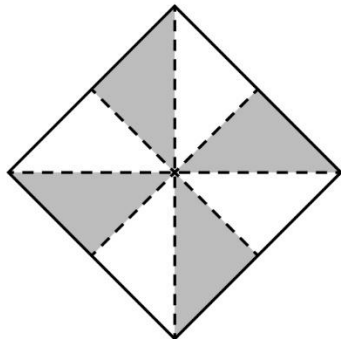
Master 19: Intervention Activity 7 Assessment
Naming Fractional Amounts

Naming Fractional Amounts Behaviours/Strategies

1. Student turns over two cards, but struggles to visually compare fraction sizes and name fractional amounts as he or she cannot name the unit (i.e., does not know fraction words).	2. Student turns over two cards, but struggles to visually compare fraction sizes and name fractional amounts, and matches number of shaded parts to first word on card. "Four eighths"	3. Student visually compares fraction sizes and names some fractional amounts, but struggles with sixths and eighths.
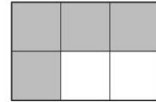
Observations/Documentation

4. Student visually compares fraction sizes and names fractional amounts, but struggles to explain thinking.	5. Student visually compares fraction sizes and names fractional amounts, but does not realize that each shape can represent two fractional amounts. "This shows four sixths only."	6. Student successfully visually compares fraction sizes, names fractional amounts, and explains thinking using math language.
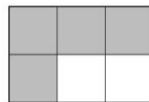
Observations/Documentation

Master 20: Intervention Activity 8 Assessment
Making 20

Composing Quantities from Parts Behaviours/Strategies

1. Student counts three times to compose quantities from parts. "1, 2, 3, 4, 5, 6" "1, 2, 3, 4, 5" "1, 2, 3, ..., 9, 10, 11"	2. Student skip-counts by 2s to compose quantities from parts. "2, 4, 6, 8, 10, 11"	3. Student instantly recognizes one of the parts (perceptual subitizing), and then counts on to compose quantities from parts. "5" "6, 7, 8, 9, 10, 11"	4. Student uses number relationships to compose quantities from parts. "I know 5 and 5 is 10, so 5 and 6 is 1 more, or 11."
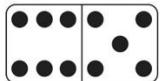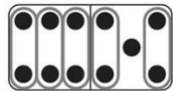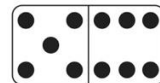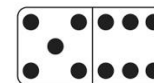
Observations/Documentation

Decomposing the Whole Behaviours/Strategies

1. Student chooses randomly to find dominoes with parts that make the same whole. "Let's try this one."	2. Student finds dominoes with parts that make the same whole when the whole is small, but struggles when the whole is large. "I don't know how to find another with this whole. There are too many dots."	3. Student finds all dominoes with parts that make the same whole, but does not see patterns in the parts. "I sorted them, but I don't see any patterns."	4. Student uses patterns to systematically find all dominoes with parts that make the same whole.
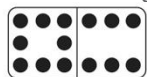
Observations/Documentation

Name_____ Date _____

How Many More? Recording Sheet

Number to Start	Total Number (Whole)	How Many More? (Part)

Master 22: Intervention Activity 9 Assessment
The Other Part of 10

Finding the Unknown Part Behaviours/Strategies

1. To find a part given the whole and another part, student guesses, adds that many cubes, and then counts all from 1 to check.	2. To find a part given the whole and another part, student counts on from the part as cubes are added, and then counts the added cubes.	3. To find a part given the whole and another part, student counts on from the part as cubes are added and uses fingers to track the count.
"Guess 4" "1, 2, 3, …,9, 10, 11. Too many."	"7" "8, 9, 10" "1, 2, 3 cubes were added."	"7" "8, 9, 10" "3 cubes were added."
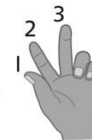
Observations/Documentation

4. To find a part given the whole and another part, student counts on from the part or back from the whole, using fingers to track the count. "5" 6 7 8 9 10	5. Student starts with parts of different sizes, but does not consider starting with a part of 0 or 10.	6. Student efficiently finds the unknown part given the whole and another part.
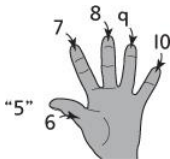
Observations/Documentation

Master 23: Activity 10 Assessment
Adding and Subtracting to 20

Addition Computational Behaviours/Strategies
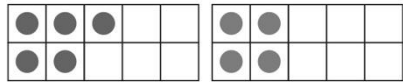
1. Student counts three times to add quantities.	2. Student counts on from the smaller set to add quantities.	3. Student counts on from the larger set to add quantities.	4. Student fluently adds quantities and demonstrates an understanding of addition.
"I, 2, 3, 4, 5" "I, 2, 3, 4" "I, 2, 3, ..., 7, 8, 9"	"4" "5, 6, 7, ..., I0, II, I2"	"8" "9, I0, II, I2"	"I0" "II, I2"
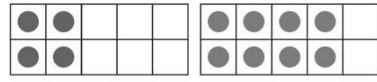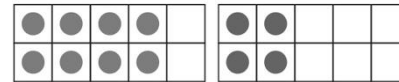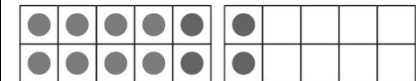
Observations/Documentation

Subtraction Computational Behaviours/Strategies

1. Student counts three times to subtract quantities (e.g., counts counters in ten-frames, counts to remove counters, and then counts the leftover counters from 1).	2. Student counts back to subtract quantities, but begins the count with the number of counters in the ten-frames.	3. Student counts back to subtract quantities, but removes more counters than there are.	4. Student fluently subtracts quantities and demonstrates an understanding of subtraction.
	"I5, I4, I3"	"I took away 6 counters and there are none left."	"I can't take away 6 because I only have 4."
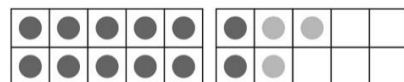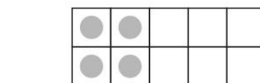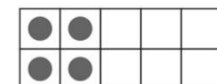
Observations/Documentation

Name_____ Date _____

My Frog Story

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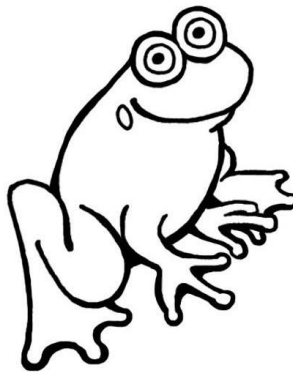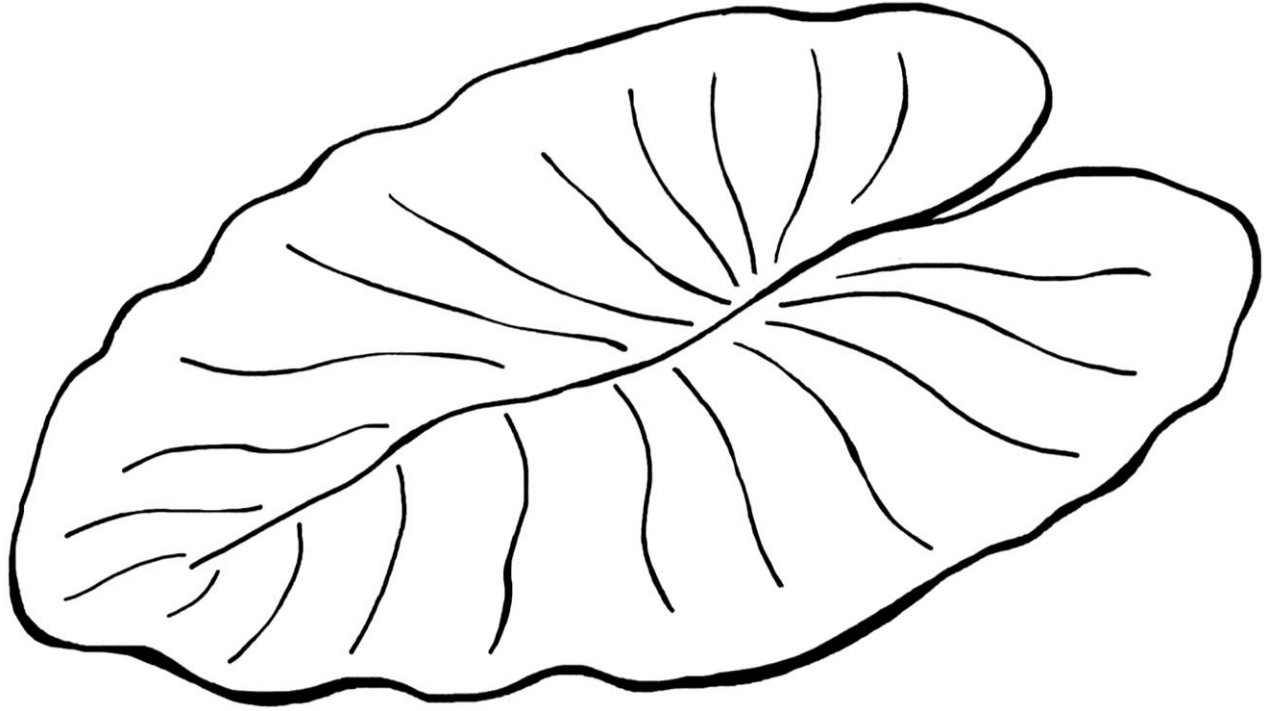
Master 25: Intervention Activity 11 Assessment
Solving Story Problems
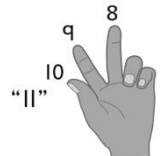
Conceptualizing Addition and Subtraction Behaviours/Strategies

1. Student plays with toy animals, but has difficulty using them to create an addition or subtraction problem. Story is not a math problem. "Bears live in trees in the day. Bears sleep in caves at night."	2. Student attempts to create an addition or subtraction problem, but does not ask a question. "There are 8 bears in the trees. 3 bears come from the cave to join them."	3. Student creates an addition or subtraction problem and acts it out, but cannot use symbols and equations to represent it.	4. Student creates an addition or subtraction problem, acts it out, and uses symbols and equations to represent it. "There are 4 bears in the cave. 2 bears climb down the trees to join them. How many bears are now in the cave?" "4 + 2 = 6"

Observations/Documentation

Addition and Subtraction Computational Behaviours/Strategies

1. Student counts three times to add or subtract quantities. "1, 2, 3, 4" "1, 2, 3, 4, 5, 6, 7" "1, 2, 3, ..., 9, 10, 11"	2. Student counts on or back to add or subtract, but begins the count with the number of objects in a part or the whole. "7" "7, 8, 9"	3. Student counts on or back with concrete materials to add or subtract quantities. "11" "10, 9, 8"	4. Student counts on or counts back fluently to add or subtract quantities. 9 8 10 "11"

Observations/Documentation

Name_____ Date _____
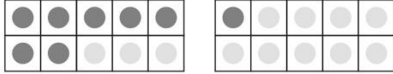
Ten on a Bus **Recording Sheet**

Dogs	Cats

Decomposing 10 into Parts Behaviours/Strategies

1. Student selects counters randomly to decompose 10 into parts.	2. Student decomposes 10 into parts, but counts three times to confirm how many.	3. Student decomposes 10 into parts, but removes all counters and starts again to find a new way.
	"I, 2, 3, 4, 5, 6, 7" "I, 2, 3" "I, 2, 3, ..., 8, 9, 10"	

Observations/Documentation

4. Student decomposes 10 into parts, but does not find all the ways.	5. Student finds many ways to decompose 10 into parts, but does not consider 0 and 10.	6. Student uses patterns to systematically find all ways to decompose 10 into parts.

Observations/Documentation

Name_____ Date _____

Number Cards (1–10)

1	2
3	4
5	6
7	8
q	10

Master 29: Intervention Activity 13 Assessment
Finding Doubles

Adding to Determine Doubles to 10 Behaviours/Strategies		
1. Student counts three times to determine doubles when adding with quantities to 20. "I, 2, 3" "I, 2, 3" "I, 2, 3, 4, 5, 6"	2. Student counts on to determine doubles when adding with quantities to 20. "6" "7, 8, 9, I0, II, I2"	3. Student makes 10 and counts all to determine doubles when adding with quantities to 20. "I, 2, 3, ..., I0, II, ..., I4, I5, I6"
Observations/Documentation		
4. Student makes 10 and counts on to determine doubles when adding with quantities to 20. "I0" "II, I2, I3, ..., I6, I7, I8"	5. Student fluently adds with quantities to 20 to determine doubles, but struggles to write the addition sentence. "I don't know what to write."	6. Student fluently adds with quantities to 20 to determine doubles and writes addition sentences.
Observations/Documentation		
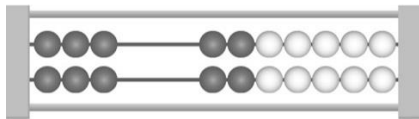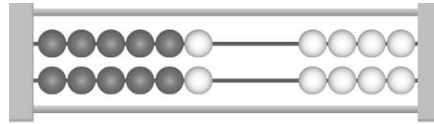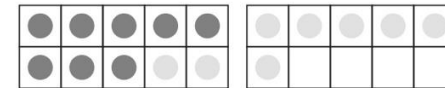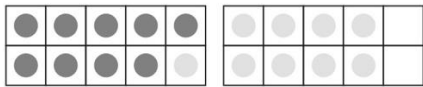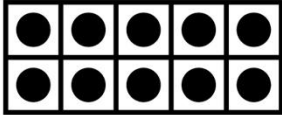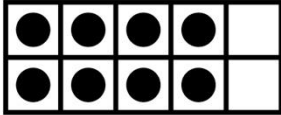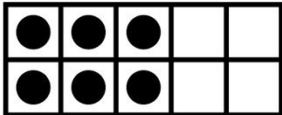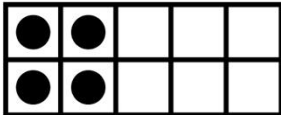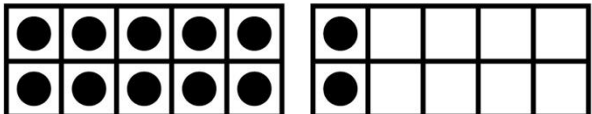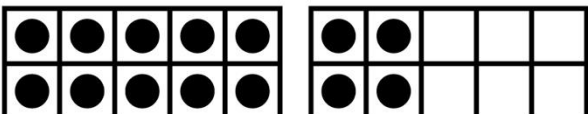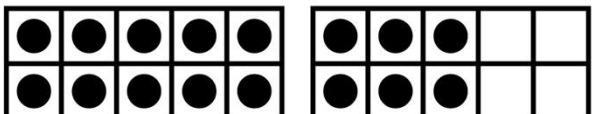
Ten-Frame Cards

Intervention: Master 30

Ten-Frame Cards

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Master 31: Intervention Activity 14 Assessment
How Many Do You See?

Grouping Objects to Find How Many Behaviours/Strategies

1. Student counts by 1s rather than grouping objects, but mixes up number sequence or does not coordinate number words with counting actions. "1, 2, 3, 5, 6, 7"	2. Student accurately counts by 1s, but does not group objects. "1, 2, 3, 4, 5, 6"	3. Student groups objects by 2s and skip-counts. "2, 4, 6"
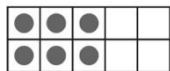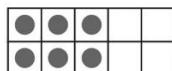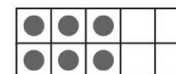
Observations/Documentation

4. Student groups some objects and subitizes, and then counts on by 1s. "6" "7, 8"	5. Student groups objects by 10s (uses structure of ten-frame to determine how many). "10 and 8 more is 18."	6. Student groups objects flexibly and uses number relationships to determine how many. "I can move 2 counters to the first ten-frame. That leaves 6 counters in the second ten-frame. 10 and 6 is 16."
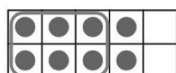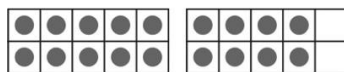
Observations/Documentation

Grouping Objects Behaviours/Strategies

1. Student counts by 1s rather than grouping objects, but mixes up number sequence. "1, 2, 3, 5"	2. Student counts by 1s rather than grouping objects, but does not coordinate number words with counting actions (e.g., misses items in the count, or counts items more than once). "4, 5"	3. Student groups objects, but not all groups are equal.

Observations/Documentation

4. Student groups objects, but always makes groups of 2 regardless of the quantity.	5. Student groups objects in 2s, 5s, and 10s, but ignores the leftover items. "5, 10, 15. There are 15 items."	6. Student flexibly groups objects in 2s, 5s, and 10s, and includes any leftover items in the total. "5, 10, 15, 16, 17. There are 17 items."
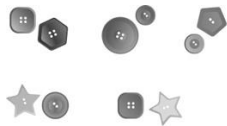
Observations/Documentation

Intervention: Master 33 # Coin Cutouts
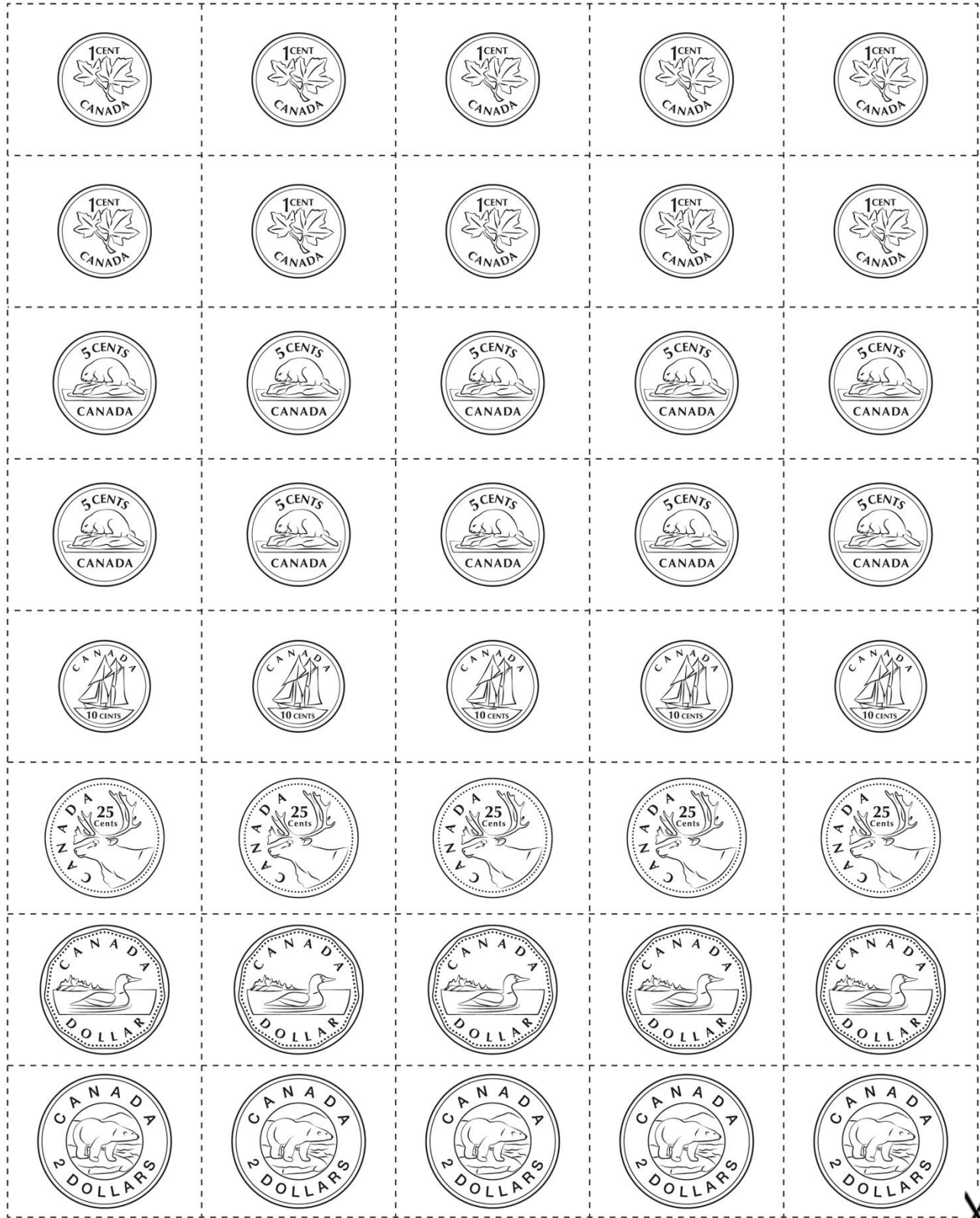
Master 34: Intervention Activity 16 Assessment
Counting Coins

Identifying and Sorting Coins Behaviours/Strategies

1. Student looks at coins, but is unable to sort them using a single attribute.	2. Student sorts a set of objects (coins) using a single attribute, but puts coins in wrong jars. Nickels	3. Student sorts a set of objects (coins) using a single attribute, but does not remember the values of the coins. "I don't remember how much a nickel is worth."	4. Student successfully sorts a set of objects (coins) using a single attribute and associates each coin with a value.

Observations/Documentation

Determining the Value of a Collection of Coins Behaviours/Strategies

1. Student sorts coins, but is unable to find value of coins as he or she does not associate value of coin with a skip-counting number. "A dime is 10 cents. What number do I skip-count by?"	2. Student sorts coins, but is unable to skip-count by factors of 10 or 100. "10, 20, 30, 50, 60"	3. Student skip-counts by factors of 10, but struggles to skip-count by factors of 100 (e.g., 25). "25, ?"	4. Student successfully skip-counts by factors of 10 and 100.

Observations/Documentation

Master 35: Intervention Activity 1 Assessment
Finding the Core

Identifying the Core Behaviours/Strategies

1. Student chooses a pattern, but struggles to identify the core of the pattern and cannot identify the attribute that is changing.	2. Student identifies the attribute that is changing, but struggles to identify the core of the pattern.	3. Student identifies the core of a pattern when it involves colour or shape, but struggles when the attribute that is changing is size, thickness, or number. "This is hard. They are all yellow triangles."

Observations/Documentation

4. Student identifies the core of a pattern, but struggles to identify what would come next in the pattern. "Yellow would come next."	5. Student identifies the core of a pattern and what comes next in the pattern, but struggles to use math language to describe the core.	6. Student successfully identifies the core of a pattern and what comes next in the pattern, and uses math language to explain thinking.

Observations/Documentation

Master 36: Intervention Activity 2 Assessment
Representing Patterns

Representing Patterns in Different Ways Behaviours/Strategies

1. Student chooses a pattern, but struggles to identify the core of the pattern. *"How do I find the core?"*	2. Student identifies the core of the pattern, but struggles to represent the core with letters. Core: ABC	3. Student identifies the core of the pattern and represents the core with letters, but has difficulty selecting objects to make another pattern.

Observations/Documentation

4. Student identifies the core of the pattern and represents the core with letters, but has difficulty using the core to make another pattern using different materials. My pattern:	5. Student represents the same pattern in different ways, but struggles to use math language to explain how the patterns are alike and how they are different.	6. Student successfully identifies the core of a pattern, represents the same pattern in different ways, and uses math language to explain how the patterns are alike and how they are different. Core: ABB My pattern:

Observations/Documentation

Master 37: Intervention Activity 3 Assessment
Skip-Counting

Skip-Counting Forward Behaviours/Strategies			
1. Student enters numbers into calculator, but struggles to skip-count by factors of 10 (e.g., 2, 5, 10) and mixes up the numbers or omits numbers in the skip-counting sequence. "10, 20, 40, 50, 70"	2. Student skip-counts by factors of 10, but struggles when the start number is not a multiple of the number. "3, 10, 20, 30, ..."	3. Student skip-counts by factors of 10 from any given number, but uses fingers or hundred chart to help. ⑤ 6 ⑦ 4 "3"	4. Student fluently skip-counts by factors of 10 (e.g., 2, 5, 10) from any given number.
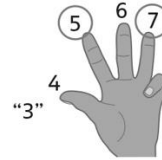
Observations/Documentation			

Intervention: Master 38a ## On and Off the Shelf Cards

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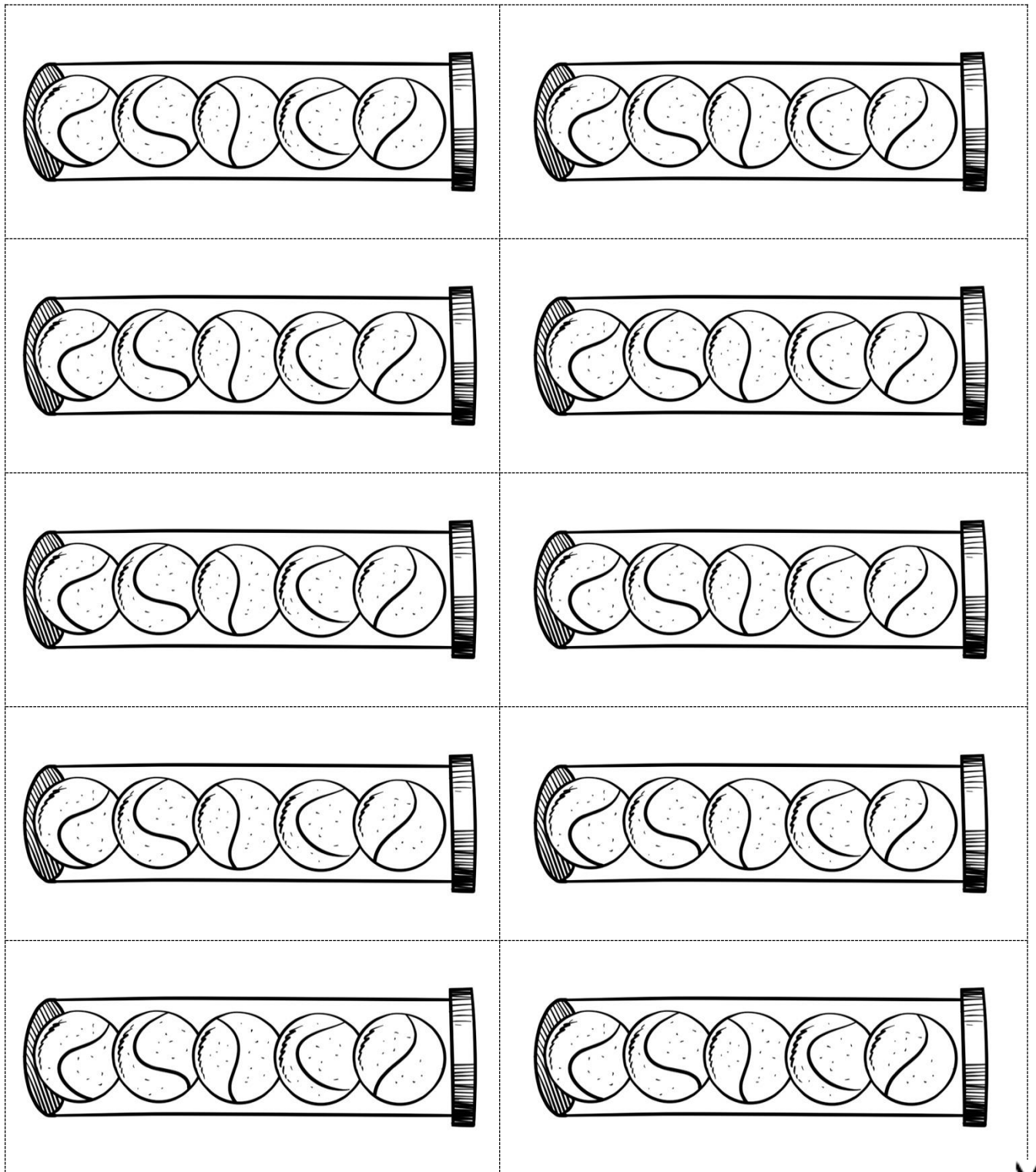
On and Off the Shelf Cards
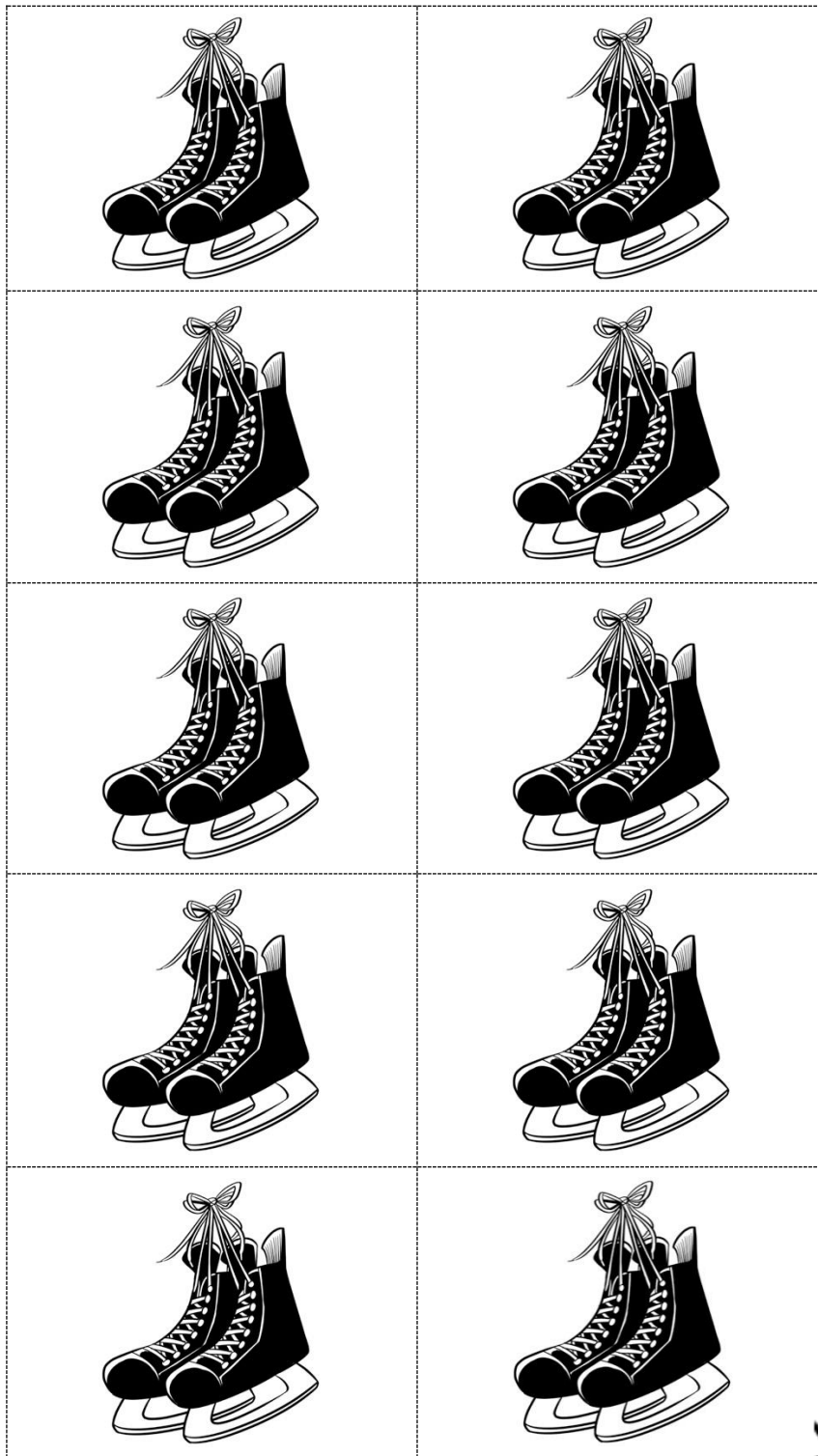
Master 39: Intervention Activity 4 Assessment
Repeated Addition and Subtraction

Using Repeated Addition and Subtraction Behaviours/Strategies		
1. Student counts all items by 1s and does not recognize number patterns in repeated units. "1, 2, 3, 4, 5, 6"	2. Student counts on or back to count items and does not recognize number patterns in repeated units. "4" "5, 6"	3. Student recognizes number patterns in repeated units and skip-counts forward or backward to find how many. "4" "6"
Observations/Documentation		
4. Student recognizes number patterns in repeated units and uses addition or subtraction to find how many, but does not see relation to repeated addition or subtraction.	5. Student recognizes number patterns in repeated units and uses repeated addition or subtraction of groups to solve problems, but is unable to use math language to explain thinking.	6. Student recognizes number patterns in repeated units and uses repeated addition or subtraction of groups to solve problems.
Observations/Documentation		
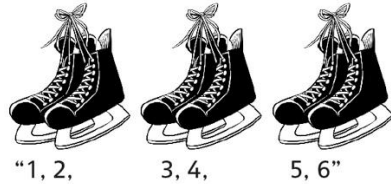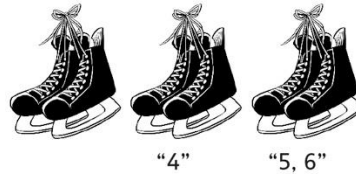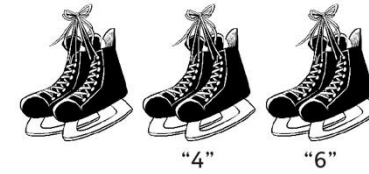
Name_____ Date _____

Spill and Fill

_____ + _____   =   _____ + _____

_____ + _____   =   _____ + _____

_____ + _____   =   _____ + _____

Master 41: Intervention Activity 5 Assessment
Exploring 10

Decomposing 10 to Write Equalities Behaviours/Strategies

1. Student spills counters, but does not understand conservation of number (rearranging counters does not change the quantity) and counts each time the counters are spilled "1, 2, 3, …, 8, 9, 10"	2. Student places counters randomly on ten frames and struggles to count the number of each colour.	3. Student groups counters of the same colour together on ten-frames and counts all counters by 1s. "1, 2, 3, 4" "1, 2, 3, 4, 5, 6"
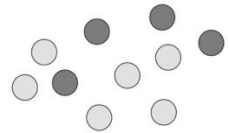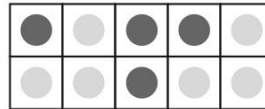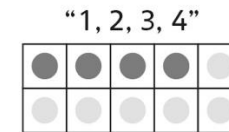
Observations/Documentation

4. Student counts or subitizes counters, but struggles to understand equality (does not associate two full ten-frames with equality).	5. Student understands equality, but has difficulty recording different expressions of the same quantity as equalities (cannot write number sentence).	6. Student understands equality and successfully records different expressions of the same quantity as equalities. $3 + 7 = 4 + 6$ $2 + 8 = 5 + 5$
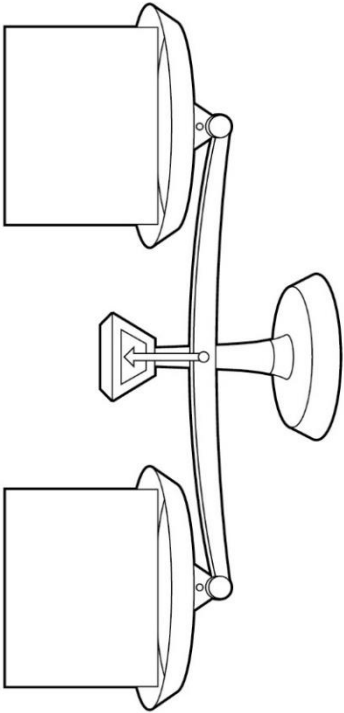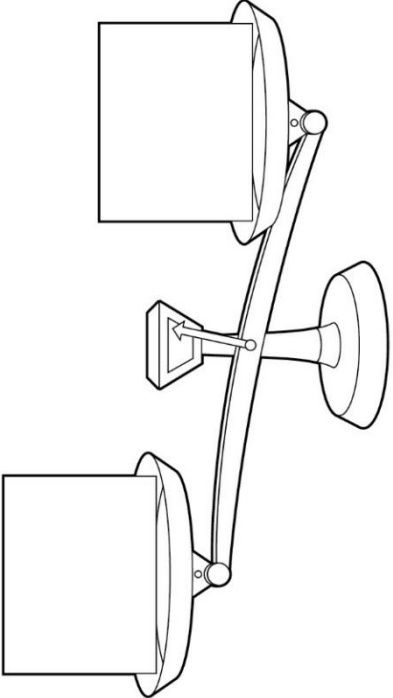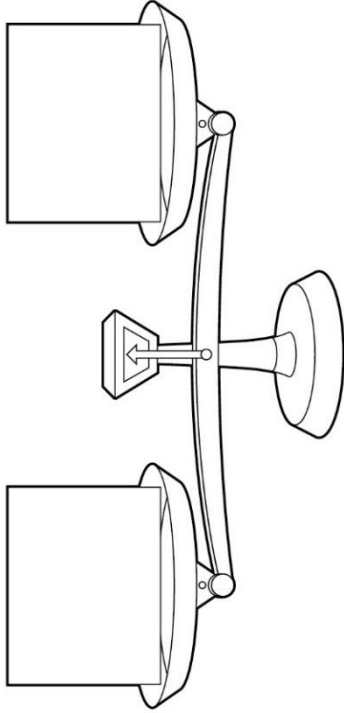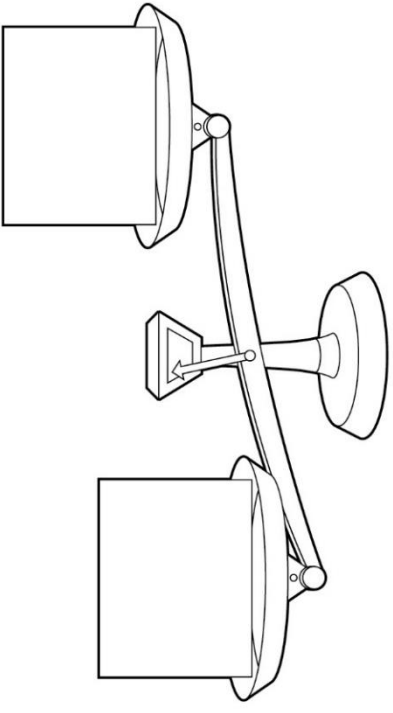
Observations/Documentation

Name_____ Date _____
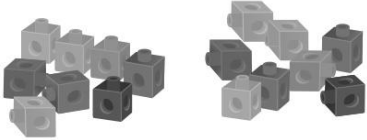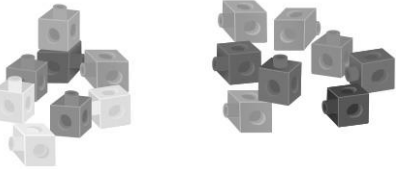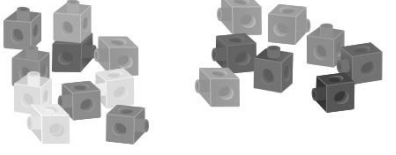
Balancing Sets Recording Sheet

Master 43: Intervention Activity 6 Assessment
Balancing Sets

Creating Equal Sets Behaviours/Strategies

1. Student places cubes in one pan, but struggles to create an equal set and randomly puts cubes in the other pan.	2. Student creates a set that is equal to a given set, but thinks the sets must be identical (e.g., uses same number of each colour of cube).	3. Student creates a set that is equal to a given set (e.g., counting or matching), but does not associate equal with balanced pans.	4. Student successfully creates a set that is equal to a given set.

Observations/Documentation

Creating Not Equal Sets Behaviours/Strategies

1. Student places cubes in one pan, but struggles to create a not equal set and randomly puts cubes in the other pan.	2. Student creates a set that is not equal to a given set, but does not know whether the new set has more or fewer cubes.	3. Student creates a set that is not equal to a given set and knows which set has more, but does not associate more with the heights of the pans.	4. Student successfully creates a set that is not equal to a given set.

Observations/Documentation

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Name_____ Date _____

Uniform Units

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Master 45: Intervention Activity 1 Assessment
Exploring Length

Measuring Length with Non-Standard Units Behaviours/Strategies		
1. Student measures objects by length using multiple copies of a non-standard unit, but ruler has big gaps or overlaps. 	2. Student measures objects by length using multiple copies of a non-standard unit, but ruler has some gaps or overlaps. 	3. Student measures objects by length using multiple copies of a non-standard unit, but does not align the base of the first unit with the end of the object being measured.
Observations/Documentation		
4. Student measures objects by length using multiple copies of a non-standard unit, but loses count when measuring.	5. Student measures objects by length using multiple copies of a non-standard unit, but forgets to include the unit when stating the measures. "It is 6 long."	6. Student successfully measures objects by length using multiple copies of a non-standard unit and includes the unit in measures.
Observations/Documentation		
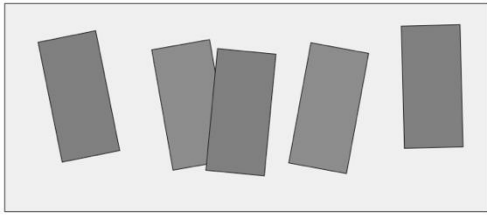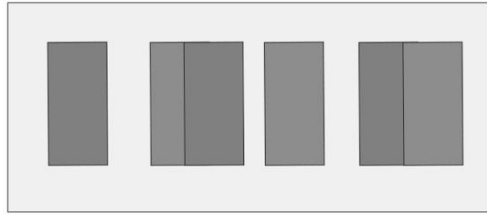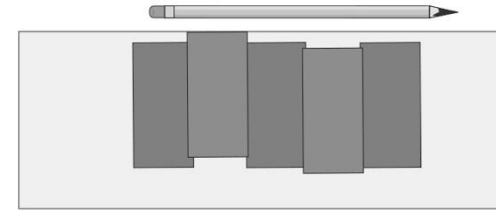
Name_____ Date _____

Picture Frame
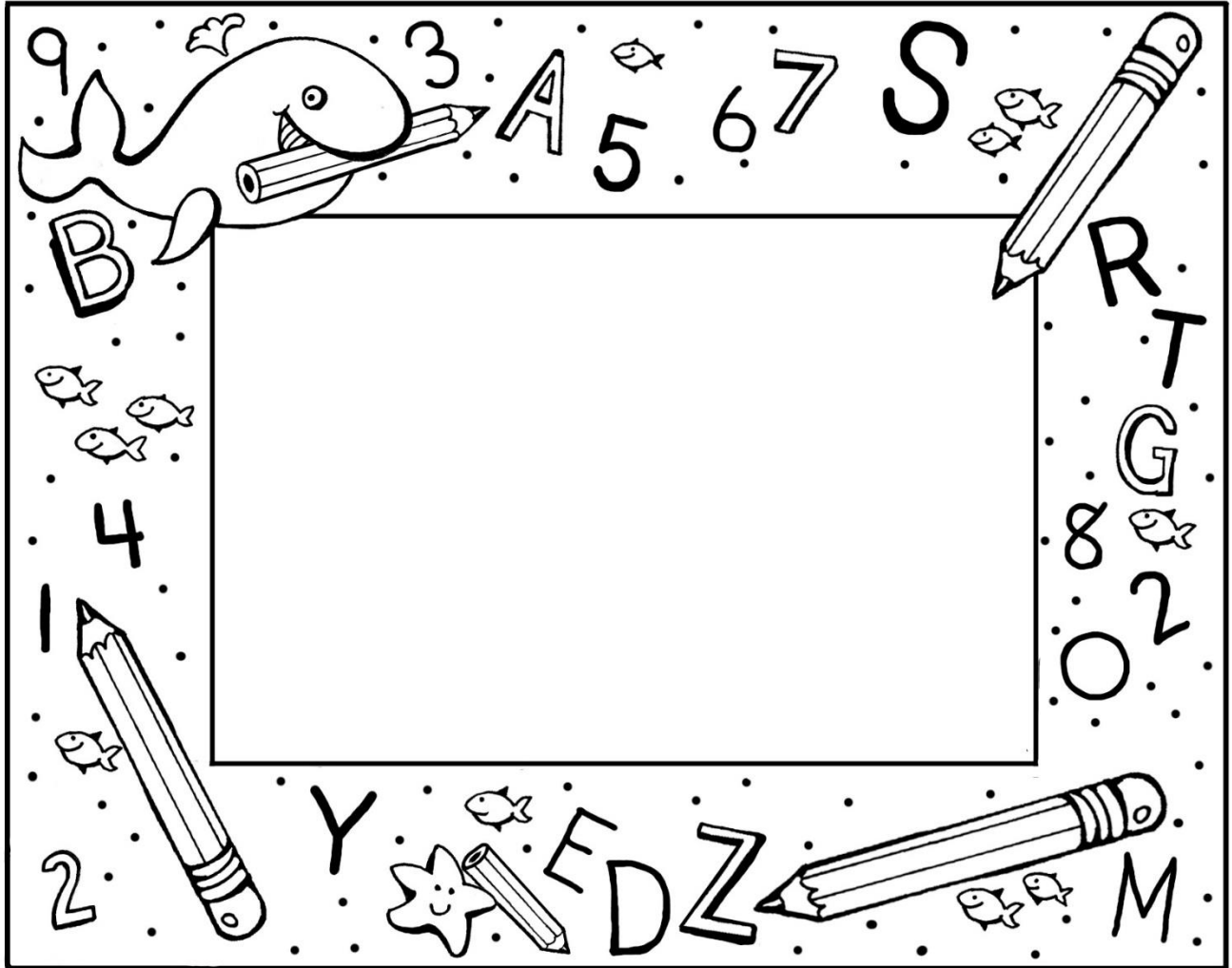
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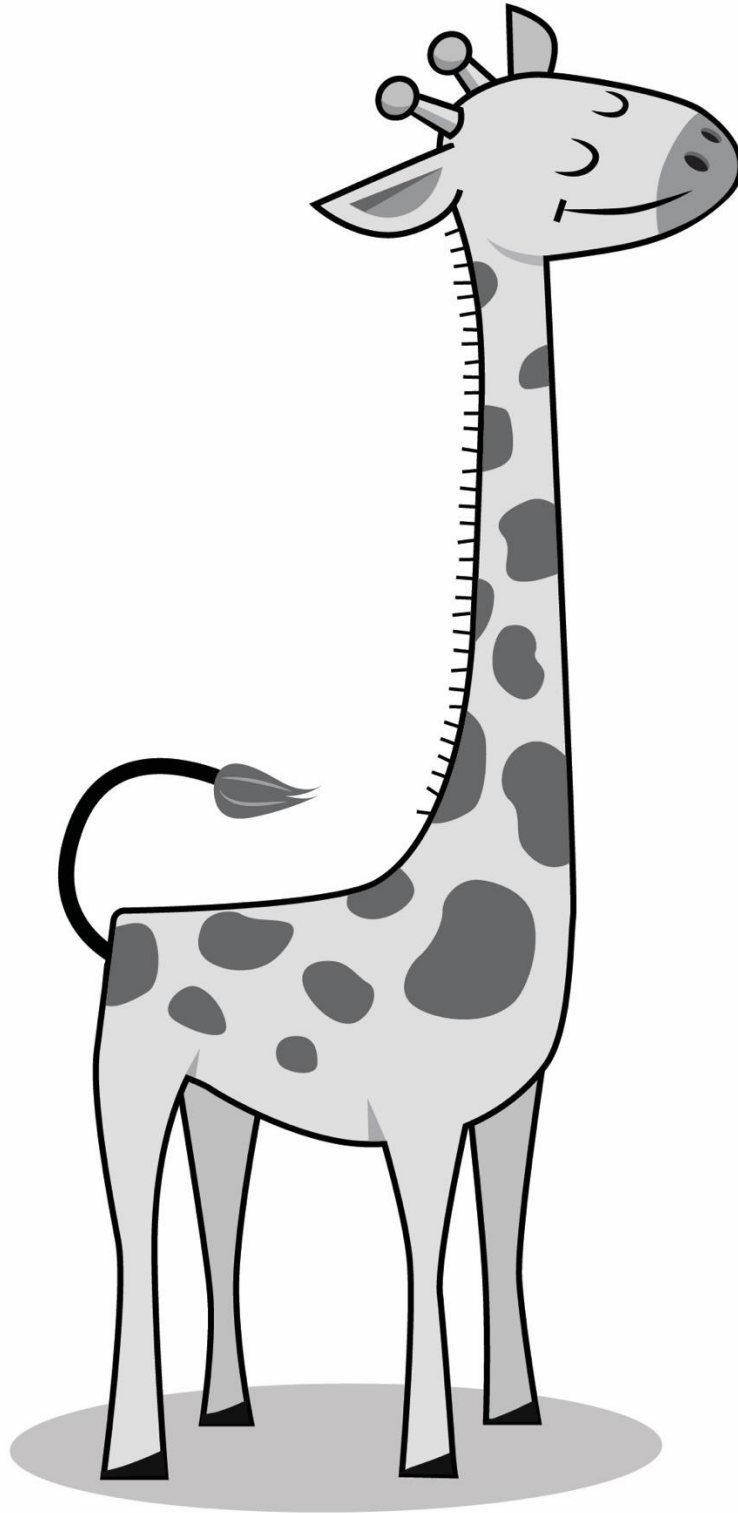
Measuring Other Animals

How long is my neck?

Name_____ Date _____

Measuring Other Animals

How long are my ears?

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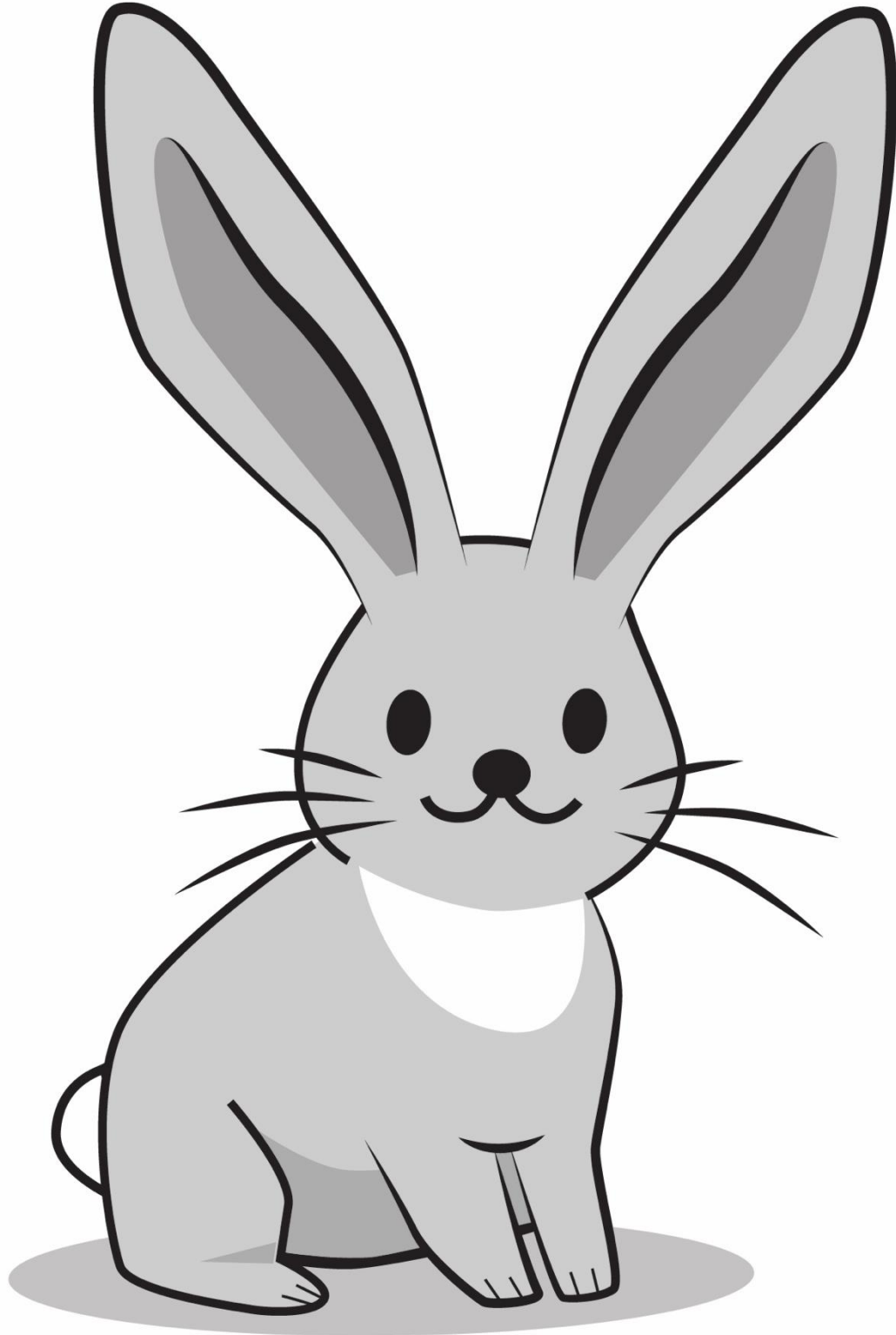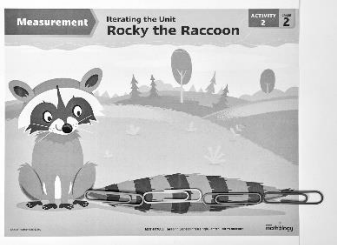
Measuring Other Animals

How long is my tail?
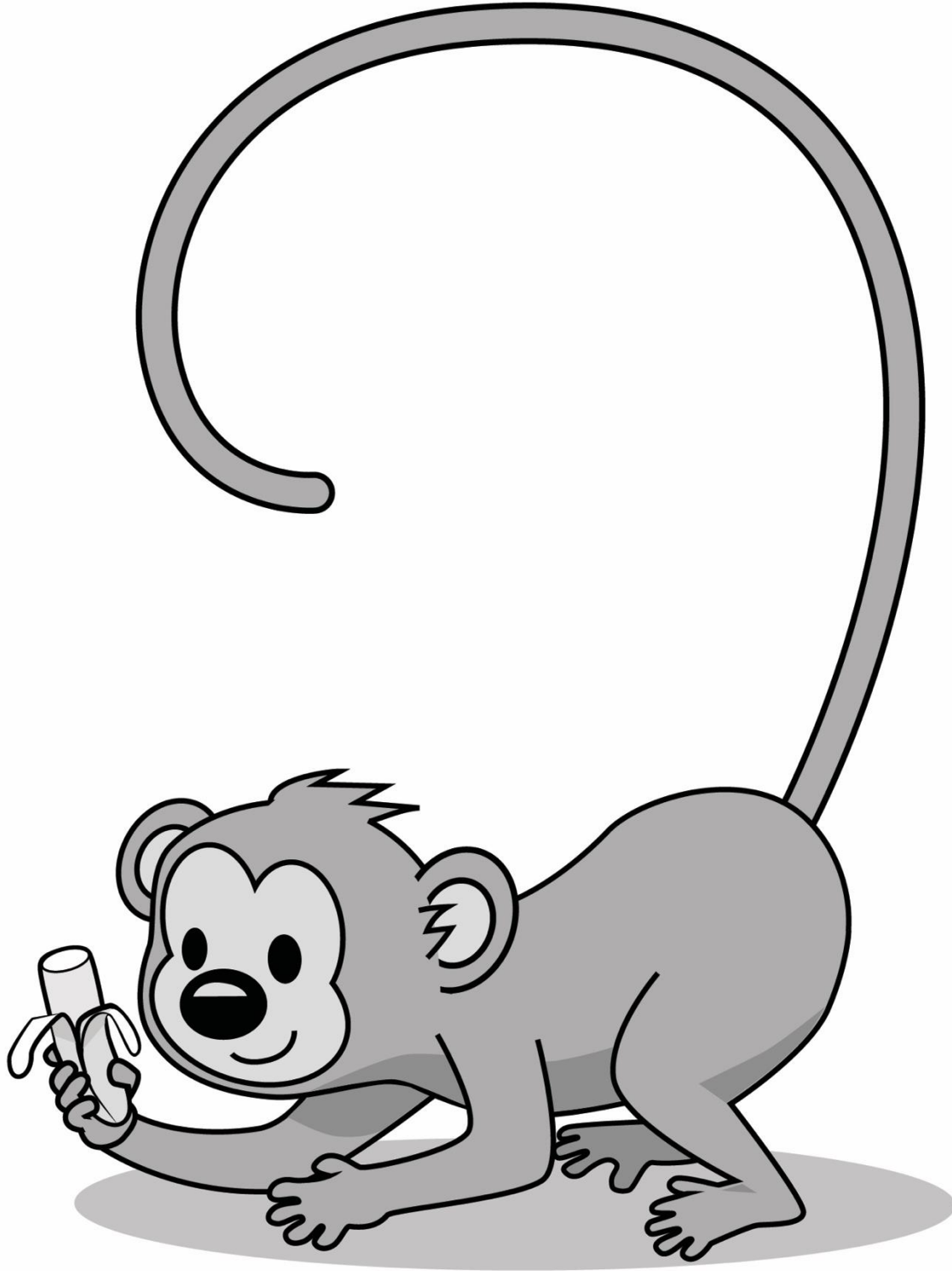
Master 48: Intervention Activity 2 Assessment
Iterating the Unit

Iterating the Unit to Measure Length Behaviours/Strategies

1. Student looks at the tail, but struggles to estimate its length with non-standard units.	2. Student measures length by iterating a single non-standard unit, but struggles to iterate the unit (leaves gaps or overlaps).	3. Student measures length by iterating a single non-standard unit, but has difficulty keeping track of the count.
"About 200 paper clips!"		"I am not sure how many paper clips I used."

Observations/Documentation

4. Student measures length by iterating a single non-standard unit, but ignores leftover amount.	5. Student measures length by iterating a single non-standard unit, but forgets to include the unit when stating the measure.	6. Student successfully measures length by iterating a single non-standard unit and includes units with measures.
"3 paper clips"	"It is about 3 long."	"It is a little more than 3 paper clips long."

Observations/Documentation

Name_____ Date _____

Recording Sheet

Object	Estimate	Measure

Master 50: Intervention Activity 3 Assessment
Using a Centicube Ruler

Measuring Length with Standard-Sized Objects Behaviours/Strategies

1. Student records object, but struggles to estimate its length with standard-sized objects. "About 100 cubes!"	2. Student uses standard-sized objects to measure, but does not join cubes and leaves gaps or overlaps.	3. Student uses standard-sized objects to measure (e.g., 10-centicube rod), but does not line up the base of the first cube with the end of the object being measured.
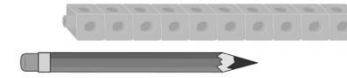
Observations/Documentation

4. Student uses standard-sized objects to measure (e.g., 10-centicube rod), but ignores the leftover amount. "8 centicubes"	5. Student uses standard-sized objects to measure (e.g., 10-centicube rod), but forgets to include the unit when stating the measure. "It is 8 long."	6. Student successfully uses standard-sized objects to measure (e.g., 10-centicube rod), and includes the unit with the measure. "It is a little more than 8 centicubes long."
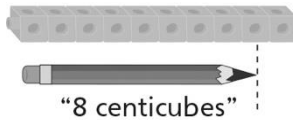
Observations/Documentation

Name_____ Date _____

Hop 25 times on each foot

Count to 100

1 2 3...

Print your name 10 times

Find a picture of a bird in a book
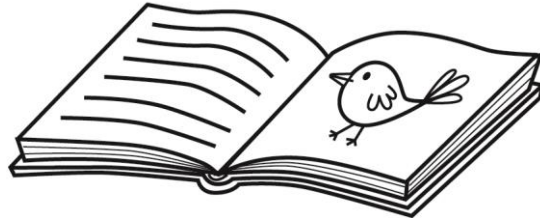
Do 25 toe touches

Building a tower of 25 linking cubes

Name_____ Date _____

Passage of Time Recording Sheet

Activity	Number of Minutes/Seconds
25 Hops on Each Foot	
Count to 100	
Print Your Name 10 Times	
Find a Bird in a Book	
25 Toe Touches	
Build a Tower of 25 Linking Cubes	

Master 53: Intervention Activity 4 Assessment
Describing and Measuring Time

Describing and Measuring Time Behaviours/Strategies		
1. Student has difficulty accurately predicting which activity will take the longest.	2. Student starts the stopwatch before or after partner starts the activity.	3. Student starts the stopwatch but doesn't stop it after partner finishes the activity.
Observations/Documentation		

4. Student thinks the time it takes to do an activity should be the same for everyone.	5. Student measures the passage of time but has difficulty using measurement language and standard units when describing the results.	6. Student measures and compares the passage of time and uses appropriate language and units to describe the results.
Observations/Documentation		

**Attribute Cards
for Intervention Activity 1**

Choose a size	**Choose a colour**
Choose a shape	**Choose a number of sides**
Choose a number of vertices	**Your choice**

Sorting Shapes Using One Attribute Behaviours/Strategies

1. Student chooses a familiar 2-D shape, but is unable to name it. "It looks like a ball."	2. Student names familiar 2-D shapes, but struggles to analyze their non-geometric and geometric attributes. "It's a rectangle and all I know is that it is red."	3. Student names familiar 2-D shapes and analyzes their attributes, but struggles to compare shapes to find similarities and differences. "I'm not sure how they are alike."

Observations/Documentation

4. Student sorts a set of 2-D shapes in different ways using a single attribute, but always uses a non-geometric attribute. "I like to sort by colour or size."	5. Student successfully sorts a set of 2-D shapes in different ways using a single attribute, but struggles to describe the sort. Yes | No "These are the *Yes* shapes and these are the *No* shapes."	6. Student successfully sorts a set of 2-D shapes in different ways using a single attribute and describes the sort using math language. Yes | No "The *Yes* shapes have 4 vertices and the *No* shapes do not."

Observations/Documentation

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2-D Shapes

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Name_____ Date _____

Attribute Cards for Shape Bin

Has 3 sides	**Has 4 sides**	**Has more than 5 sides**
Has 3 vertices	**Has 4 vertices**	**Has 5 vertices**
Has 0 vertices	**Has all sides same length**	**Has 2 sides same length**
Does not have straight sides	**Is a triangle**	

Analyzing Geometric Attributes of 2-D Shapes Behaviours/Strategies		
1. Student analyzes geometric attributes of 2-D shapes, but is only able to identify one shape with a given attribute. "This is the only shape with 4 sides."	2. Student analyzes geometric attributes of 2-D shapes, but thinks that shapes that are oriented differently do not have the attribute. "This does not have 4 vertices."	3. Student analyzes geometric attributes of 2-D shapes, but only identifies familiar shapes as having the given attribute. "Does not have 4 sides" "Has 4 sides"

Observations/Documentation		

4. Student analyzes geometric attributes of 2-D shapes (number of sides), but struggles to identify shapes by number of vertices. "It has 3 sides. I don't know how many vertices it has."	5. Student successfully analyzes geometric attributes of 2-D shapes, but struggles to draw another shape that has the given geometric attribute. "I don't know what to draw."	6. Student successfully analyzes geometric attributes of 2-D shapes and draws another shape that has the given geometric attribute.

Observations/Documentation		

Pattern Block Outlines (for Before)

Name_____ Date _____

Fill Me!

Name_____ Date _____
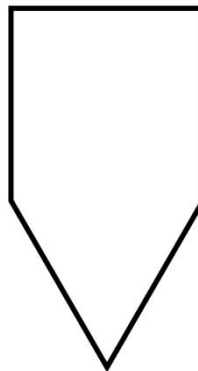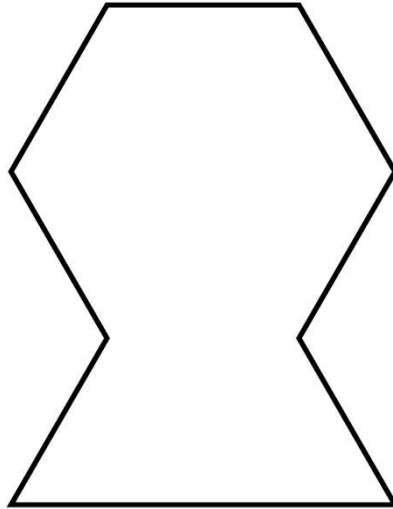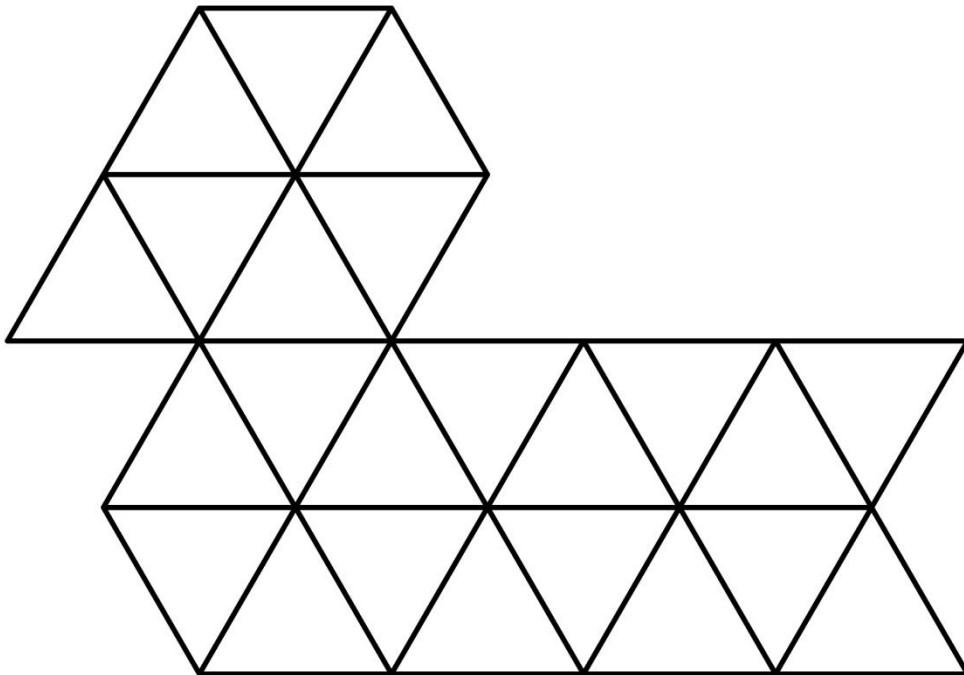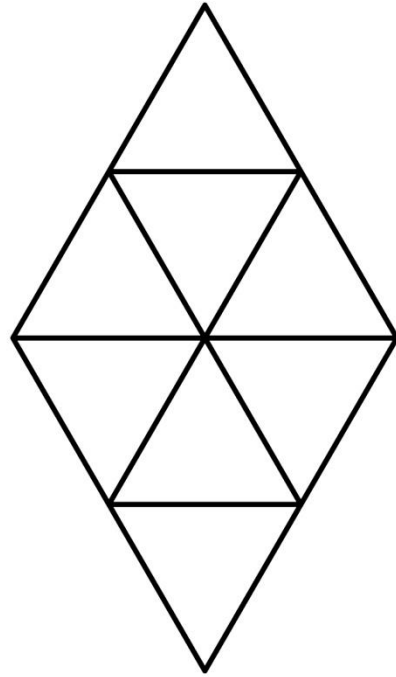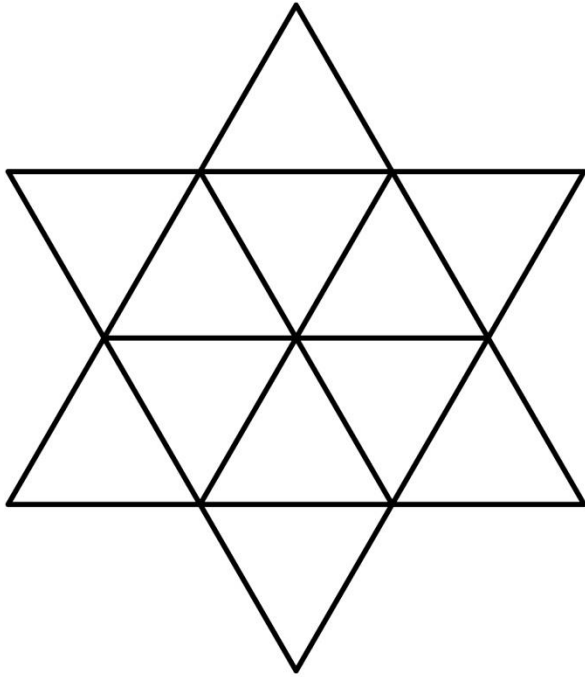
Fill Me!
(for Accommodations)

Name_____ Date _____
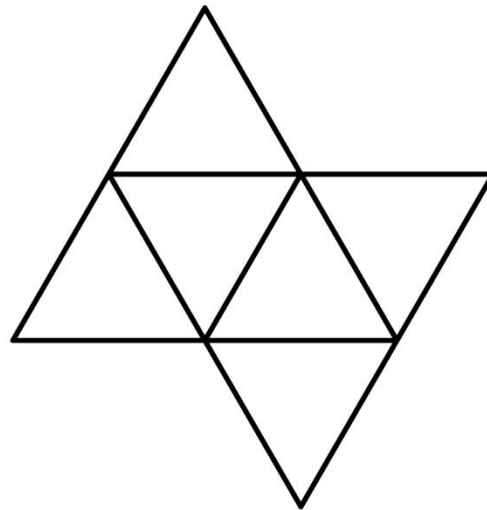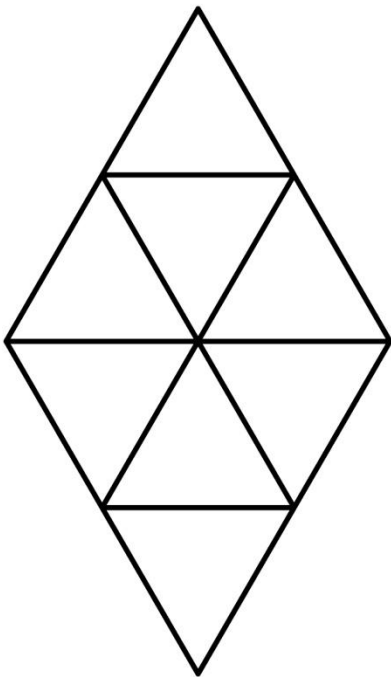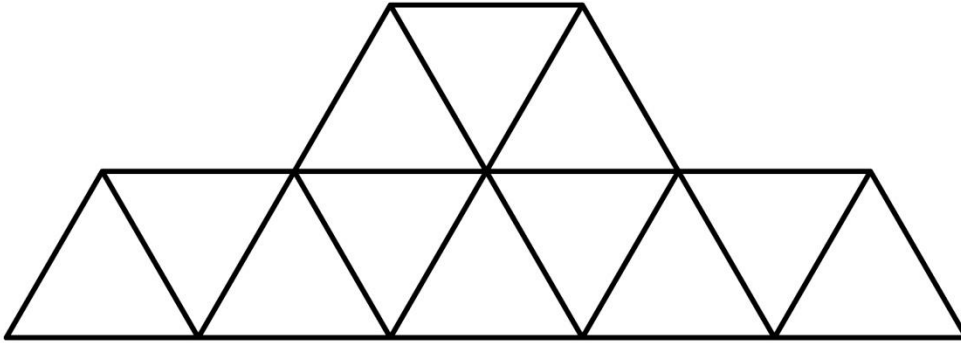
Fill Me!
(for Extension)
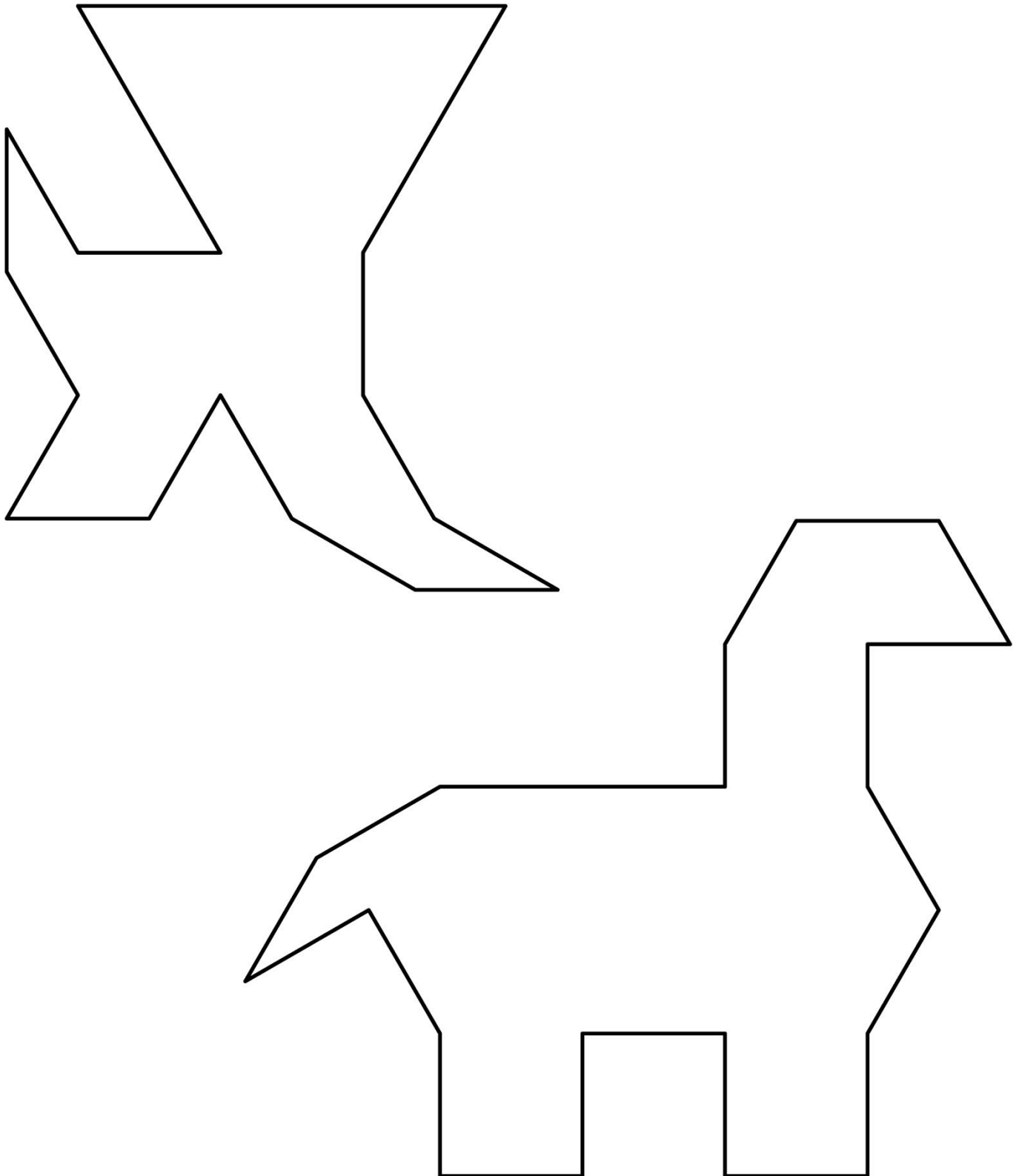
Master 61: Intervention Activity 3 Assessment
Covering Outlines

Covering Outlines in Different Ways Behaviours/Strategies		
1. Student covers a picture outline with shapes, but places blocks randomly or with gaps/overlaps.	2. Student covers a picture outline with shapes, but always tries to place matching blocks in the same relative position. "I don't see shapes that will fit."	3. Student covers a picture outline with shapes, but uses all green triangles.
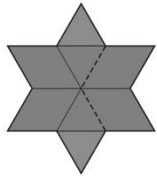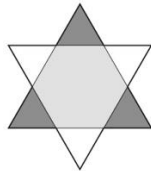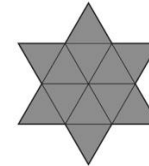
Observations/Documentation		

4. Student successfully completes a picture outline with shapes in one way, but removes all blocks to show another way.	5. Student successfully completes a picture outline with shapes in one way and trades blocks to show another way, but struggles to describe/name the shapes used.	6. Student successfully completes a picture outline with shapes in more than one way and uses math language to describe/name shapes used.
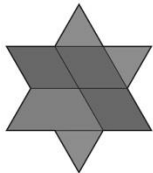
Observations/Documentation		

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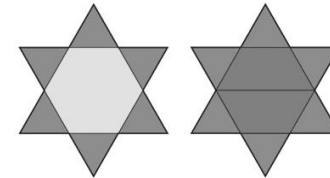
Master 62: Intervention Activity 4 Assessment
Describing Solids

Building Structures with 3-D Solids Behaviours/Strategies			
1. Student chooses solids randomly to construct a structure and gives no thought to the attributes of the solids. "I'll start with the sphere."	2. Student constructs a structure with 3-D solids, but only uses solids with rectangular or square faces.	3. Student constructs a structure with 3-D solids, but it does not match original structure.	4. Student successfully constructs a structure with 3-D solids.
Observations/Documentation			

Describing and Identifying 3-D Solids Behaviours/Strategies			
1. Student chooses a solid, but uses gestures or non-geometric attributes to describe it. "The solid has faces that are shaped like hockey cards."	2. Student describes geometric attributes of solid, but provides an incomplete description. "The solid has faces that are squares."	3. Student describes geometric attributes of solid, but partner ignores description or focuses on only part of the description.	4. Student describes geometric attributes of solids, and partner identifies them with ease.
Observations/Documentation			

Name_____ Date _____

Tower Views

Structure

Front view

Top view

Side view

Name_____   Date _____

Structure Recording Sheets

 Structure 1	**Front view**
Top view	**Side view**

Structure Recording Sheets

Structure 2

Front view

Top view
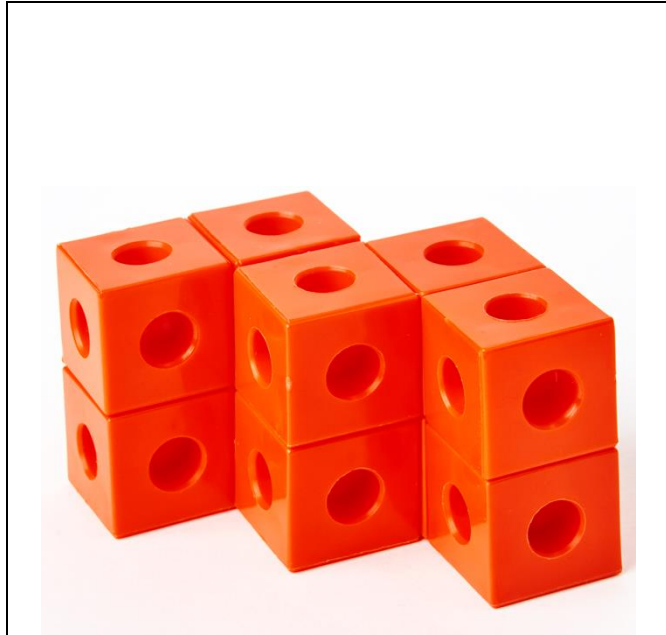
Side view

Structure Recording Sheets

Structure 3

Front view

Top view

Side view

Viewing Frame

Cut out the window.
Look at the cube structure through the window.
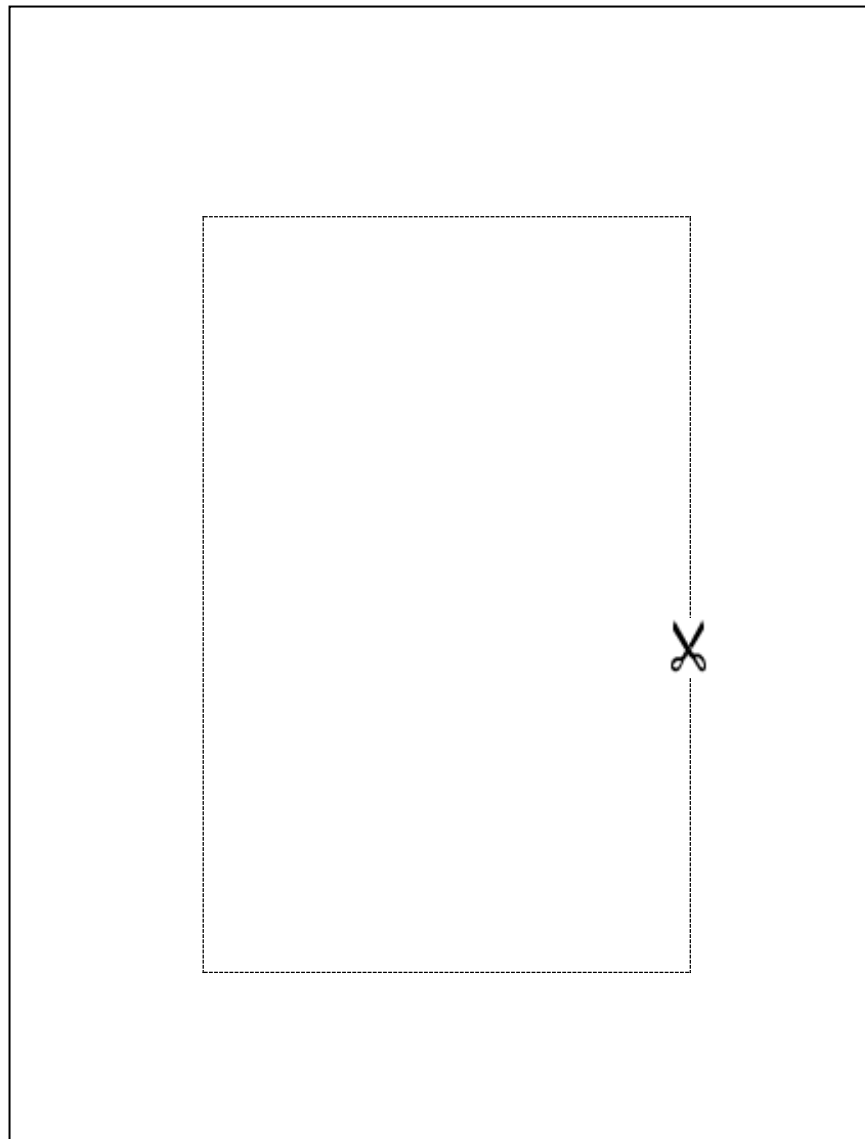
Master 66: Intervention Activity 5 Assessment
Tower Views

Drawing Perspective Diagrams Behaviours/Strategies		
1. Student builds a structure, but struggles to create 2-D representations of it (e.g., top/front/side views).	2. Student creates one 2-D representation of a structure (e.g., top, front, or side view), but is confused by the other views. "I drew the front. It only has one view."	3. Student accurately creates 2-D representations (e.g., top/front/side views) of 3-D objects. Front view Top view Side view
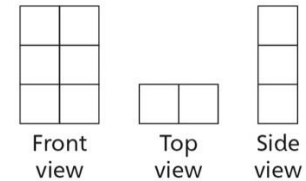
Observations/Documentation

Visualizing Different Perspectives Behaviours/Strategies		
1. Student builds a structure, but does not show understanding of the concept of perspective.	2. Student builds a structure, but struggles to visualize and describe the views of the structure from multiple perspectives, as he or she cannot isolate a particular view or distinguish different views.	3. Student successfully visualizes and describes the views of a 3-D solid from multiple perspectives (e.g., top/front/side views).

Observations/Documentation

Giving Directions Behaviours/Strategies

1. Student looks at the ten-frame, but struggles to give simple directions, and directions are incomplete or incorrect. End "Take 1 step." Start	2. Student gives simple directions, but does not adjust them for partner's perspective. "Take 3 steps left."	3. Student gives accurate simple directions and considers partner's perspective. "Take 3 steps forward. Take 1 step right. Take 1 step back."
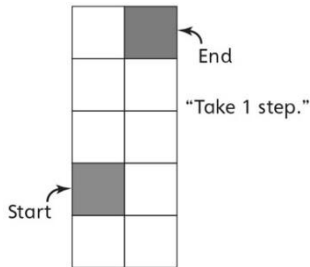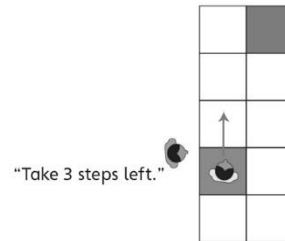
Observations/Documentation

Following Directions Behaviours/Strategies

1. Student stands on start, but struggles to follow simple directions or miscounts steps.	2. Student follows simple directions, but relies on the direction buddy to move left or right. "I need the direction buddy to help."	3. Student follows simple directions to move quickly and easily to the end.

Observations/Documentation

Master 68   # Building a Snow Figure

Master 69

Activity Pictures

Wake up

Go to bed

Eat breakfast

Eat lunch

Eat dinner

Play soccer

Name_____ Date _____

Activity Pictures (Extension)
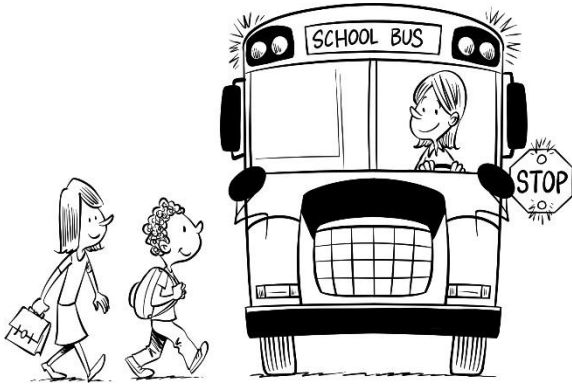
Take the bus	**Brush my teeth**
Read a bedtime story	

Geometry

Master 71: Intervention Activity 7 Assessment
Ordering Events

Ordering Events Behaviours/Strategies			
1. Student has difficulty knowing which event or picture to start with.	2. Student orders some of the events correctly but has difficulty altering the code.	3. Student successfully orders events, but has difficulty communicating her or his thinking.	4. Student successfully orders events and communicates his or her thinking using sequencing language.
Observations/Documentation			

Do You Like Dogs? (for Before)

Do You Like Dogs?

🙂	
🙂	
🙂	
🙂	🙁
Yes	**No**

Name_____ Date _____

Children in Evening Art Class
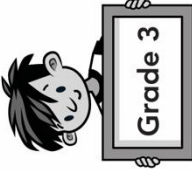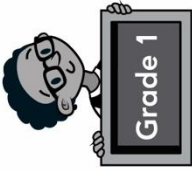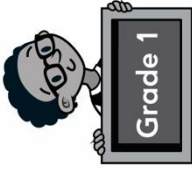
Children in Evening Art Class

Monday	**Thursday**

Intervention: Master 74 **Students in Science Club**

Students in Science Club

		Grade 3	Grade 3	**Grade 3**
Grade 2	Grade 2	Grade 2	Grade 2	**Grade 2**
		Grade 1	Grade 1	**Grade 1**

Master 75: Intervention Activity 1 Assessment
Interpreting Pictographs

Interpreting Pictographs Behaviours/Strategies		
1. Student looks at pictographs, but does not know where to start.	2. Student reads pictographs, but counts one picture twice or mixes up the number word sequence. "1, 2, 3, 5, 6"	3. Student reads pictographs, but struggles to interpret data to answer "how many" questions.
Observations/Documentation		
4. Student reads pictographs, but struggles to interpret data to answer comparison questions (e.g., how many more/less). "How do I know how many more children go to art class on Thursdays?"	5. Student reads pictographs and interprets displays by noting how many more/less than other categories, but struggles to use math language when making comparisons.	6. Student successfully reads pictographs and interprets displays by noting how many more/less than other categories and uses math language to make comparisons.
Observations/Documentation		

Master 76: Intervention Activity 2 Assessment
Sorting Objects

Sorting Objects Behaviours/Strategies			
1. Student sorts a set of objects, but can only sort by colour (cannot sort in different ways).	2. Student sorts a set of objects in different ways, but struggles to determine which group has the most objects.	3. Student sorts a set of objects in different ways and aligns objects to compare, but thinks the longer line always has more.	4. Student successfully sorts a set of objects in different ways using a single attribute and makes comparisons.
Observations/Documentation			
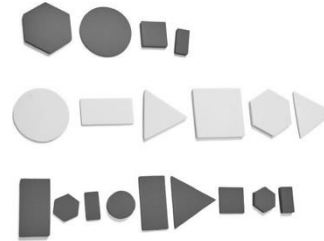
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Name_____ Date _____

Event Cards

Note: The likelihood of events may vary by location, present circumstances, and student experiences. These cards provide examples of events. Consider creating cards related to events in your school or community, or of interest to your students.

Brush teeth today

Drink milk today
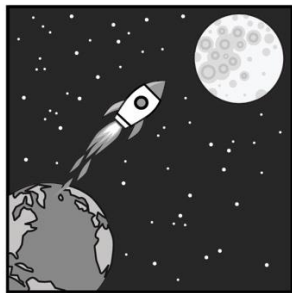
Go to the moon on the weekend

See a monkey driving a car
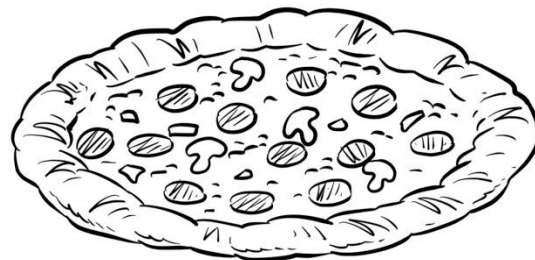
Have pizza for lunch

Event Cards

Play soccer

Go to bed tonight

Ride a camel
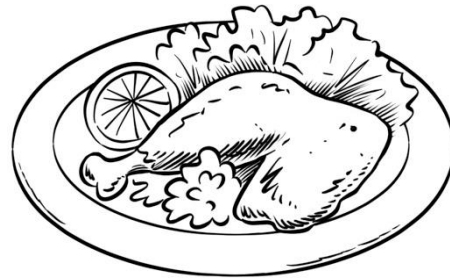
Have chicken for dinner
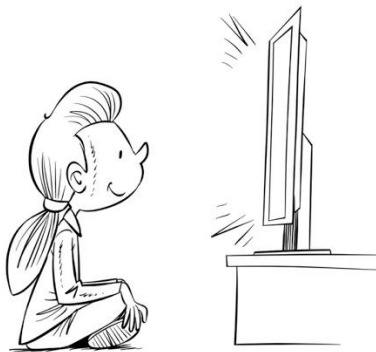
Watch television

Learn math

Event Cards

Later today	**Rain cats and dogs**
See a money tree	**Elephant in the Arctic**
In my lunch today	**Later today**
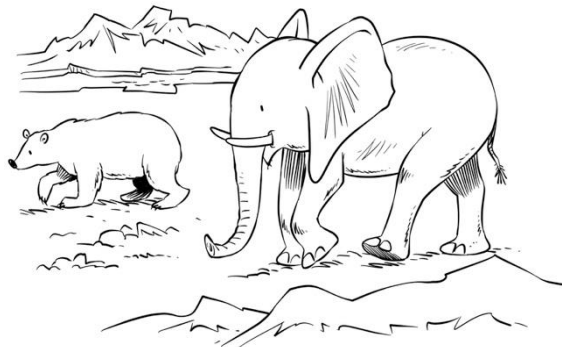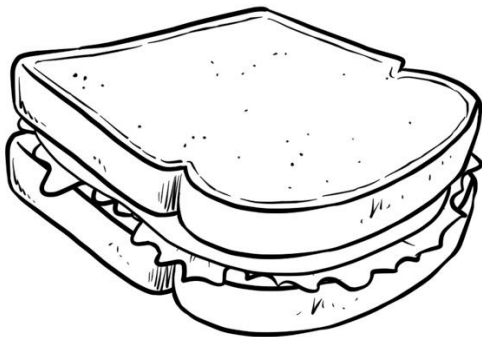
Name_____ Date _____
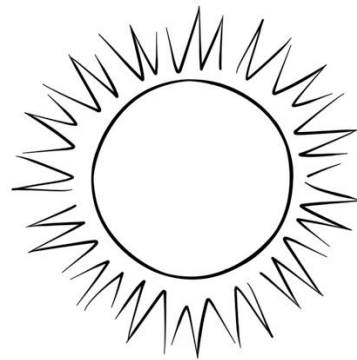
Word Cards

Impossible	**Impossible**	**Impossible**
Impossible	**Impossible**	**Impossible**
Impossible	**Unlikely**	**Unlikely**
Unlikely	**Unlikely**	**Unlikely**
Unlikely	**Unlikely**	**Certain**
Certain	**Certain**	**Certain**
Certain	**Certain**	**Certain**

Word Cards

Never	**Never**	**Never**
Never	**Never**	**Never**
Never	**Sometimes**	**Sometimes**
Sometimes	**Sometimes**	**Sometimes**
Sometimes	**Sometimes**	**Always**
Always	**Always**	**Always**
Always	**Always**	**Always**

Using the Language of Chance Behaviours/Strategies

1. Student struggles to describe the likelihood of an event and chooses words randomly.	2. Student describes the likelihood of an event, but decision is based on beliefs or what she or he wants to happen.	3. Student describes the likelihood of an event, but cannot justify thinking.	4. Student successfully describes the likelihood of an event and justifies thinking.
	"I am certain to go to the moon because I love spaceships."	"I will never see a monkey driving a car, but I don't know why."	"I am certain to brush my teeth today because I always brush my teeth when I get up in the morning and before I go to bed at night."
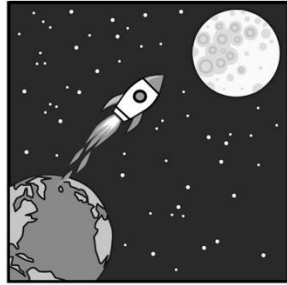
Observations/Documentation

Name_____ Date _____

More or Less Likely? Events

I will wear skates.

Or

I will wear running shoes.

I will ride in a car.

Or
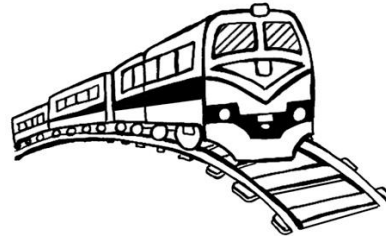
I will ride in a train.

I will eat an apple.

Or

I will eat a pineapple.

I will see a cat wearing winter boots.

Or

I will see a dog wearing winter boots.

Name_____ Date _____

More or Less Likely? Events

I will sneeze today.

Or

I will lose my voice today.

It will snow today.

Or

It will rain today.

I will go to the zoo today.
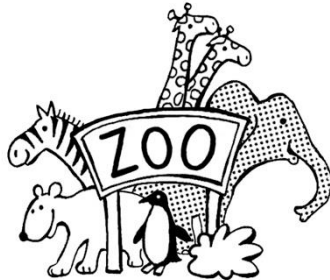
Or

I will go to the park today.

I will see a plane in the sky.

Or

I will see a full moon.

Name_____ Date _____
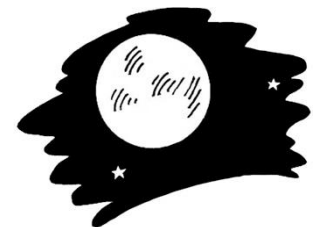
More or Less Likely? Events

I will play the piano today.

Or

I will read a story today.

I will go to school tomorrow.

Or

I will be sick tomorrow.

I will wear a winter coat today.

Or

I will wear rain boots today.

I will ride a bus tomorrow.

Or

I will ride a rollercoaster tomorrow.

Name_____ Date _____

More or Less Likely? Events

We will have indoor recess today.

Or

We will play in the schoolyard today.

I will go skiing today.

Or

I will learn math today.

3 + 2 = 5

I will play the violin today.

Or

I will play tag today.

I will drink water today.

Or

I will drink coffee today.

Master 81: Intervention Activity 4 Assessment
More or Less Likely?

Comparing the Likelihood of Two Events Behaviours/Strategies			
1. Student struggles to compare the likelihood of two events and chooses events randomly.	2. Student compares the likelihood of two events, but decision is based on beliefs or what he or she wants to happen. "It is more likely that I will ride a roller coaster tomorrow because I love to go on rides."	3. Student compares the likelihood of two events, but cannot justify thinking. "It is more likely that it will snow today, but I don't know why."	4. Student successfully compares the likelihood of two events and justifies thinking. "It is more likely that I will ride a bus tomorrow because tomorrow is a school day and I take the bus to school."
Observations/Documentation			

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Coloured Rods

Name_____ Date _____

Paper Shapes

Rectangle

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Name_____ Date _____

Square

Name_____ Date _____

At the Beach

Math Every Day: Master 4 **Images of Everyday Items**

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7

STOP

Wieners

Name_____ Date _____
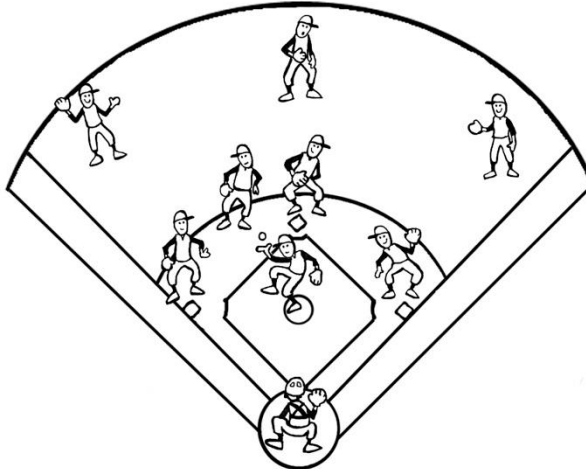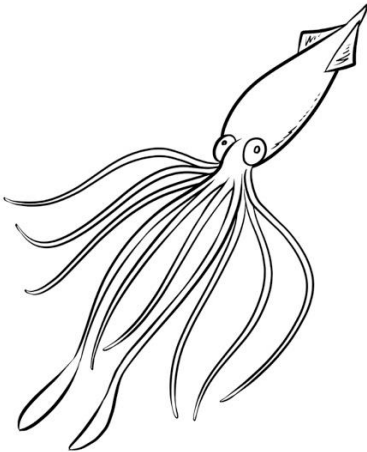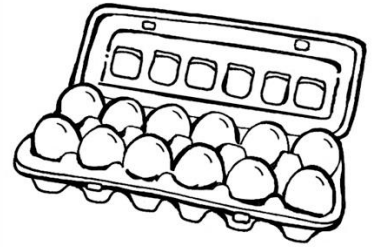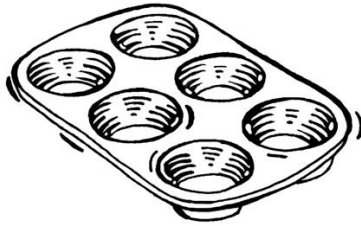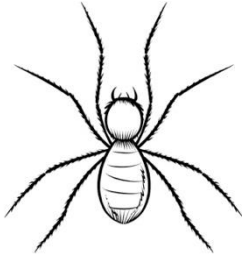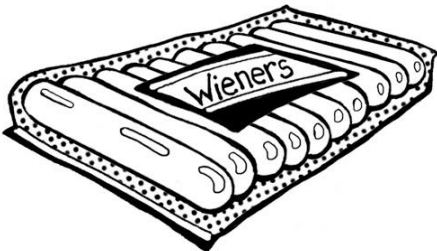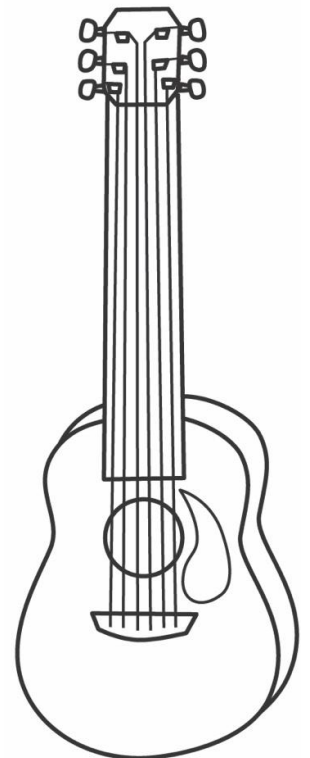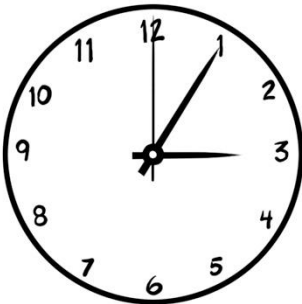
Coin Cutouts
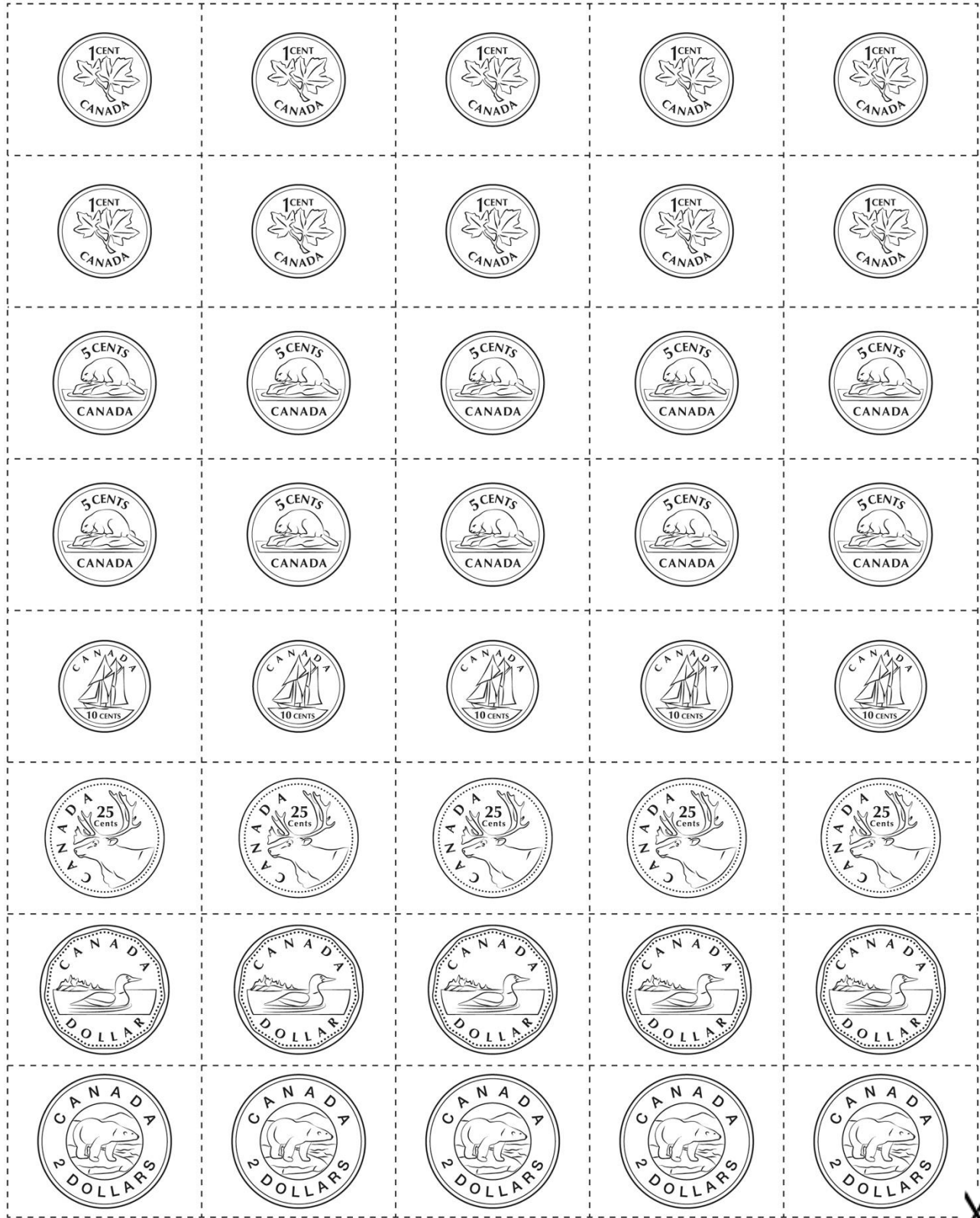
Math Every Day: Master 6 ## Repeating Patterns Around Us

Wall Art

Name_____ Date _____

Crosswalk

Paving Stones

Name_____ Date _____

Garden Path

Name_____ Date _____

What's Missing?
Number Sentences

$3 + 6 = \square$

$3 + 6 = 4 + \square$

$3 + 2 + \square = 4 + 5$

$3 + \square + 5 = 6 + 3$

$3 + 3 + 3 = 2 + \square + 3$

$8 + \square = 15$

$\square + 3 + 7 = 4 + 11$

$\square + 10 = 11 + 4$

$5 + 3 + 7 = 2 + \square + 4$

$5 + 10 = 2 + \square$

$\square - 5 = 4$

$9 - 5 = 3 + \square$

$9 - \square - 1 = 1 + 3$

$\square - 1 = 2 + 2$

$4 = \square - 3 + 2$

$5 + 5 = \square + 4$

$5 + \square + 3 = 4 + 2 + 4$

$7 + 3 = 2 + \square$

$\square - 2 + 3 = 2 + 9 - 1$

$12 - 2 = \square + 9$

Name_____ Date _____

Centimetre Ruler

0 CM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Math Every Day: Master 9

Event Cards

Sing O' Canada!	Fill up your water bottle.	Walk to the class next door and back.
Do 30 sit-ups.	Write your name 15 times.	Read one page from a book.
Make a paper airplane.	Draw a family portrait.	Do 10 push-ups.

Name_____ Date _____

Fill Me In!
Pattern Block Outlines

Name_____ Date _____

Fill Me In!
Pattern Block Outlines

Name_____ Date _____

Draw the Shape Cards

A.

Math Every Day: Master 11b   # Draw the Shape Cards

B.

Name_____ Date _____

C.

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Math Every Day: Master 11d   # Draw the Shape Cards

D.

Name_____ Date _____

Draw the Shape Cards

E.

Draw the Shape Cards

F.

Name_____ Date _____

Map of Neighbourhood

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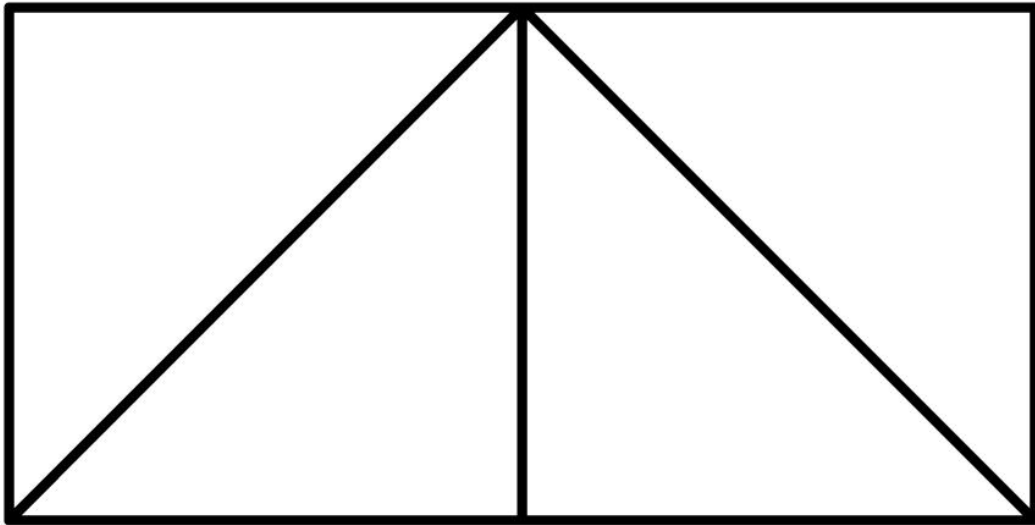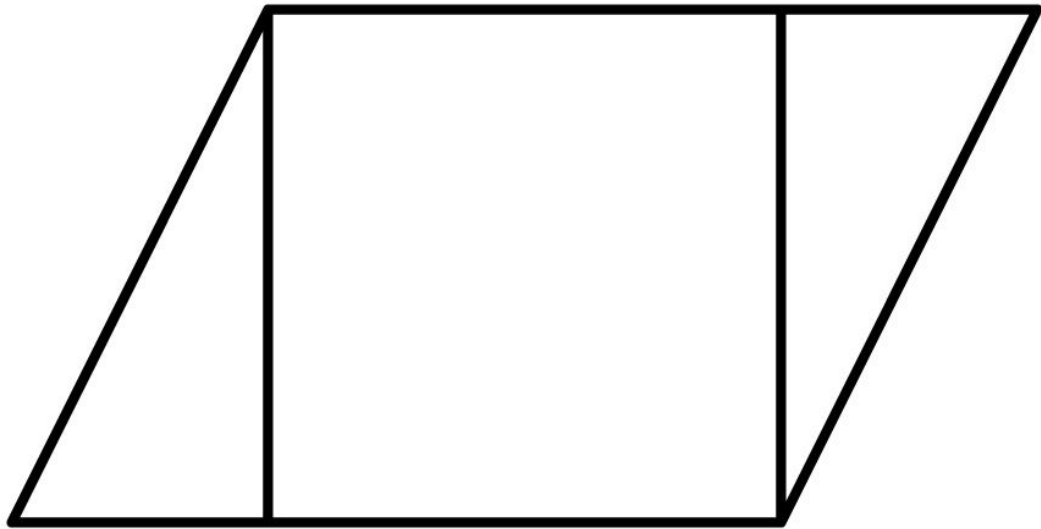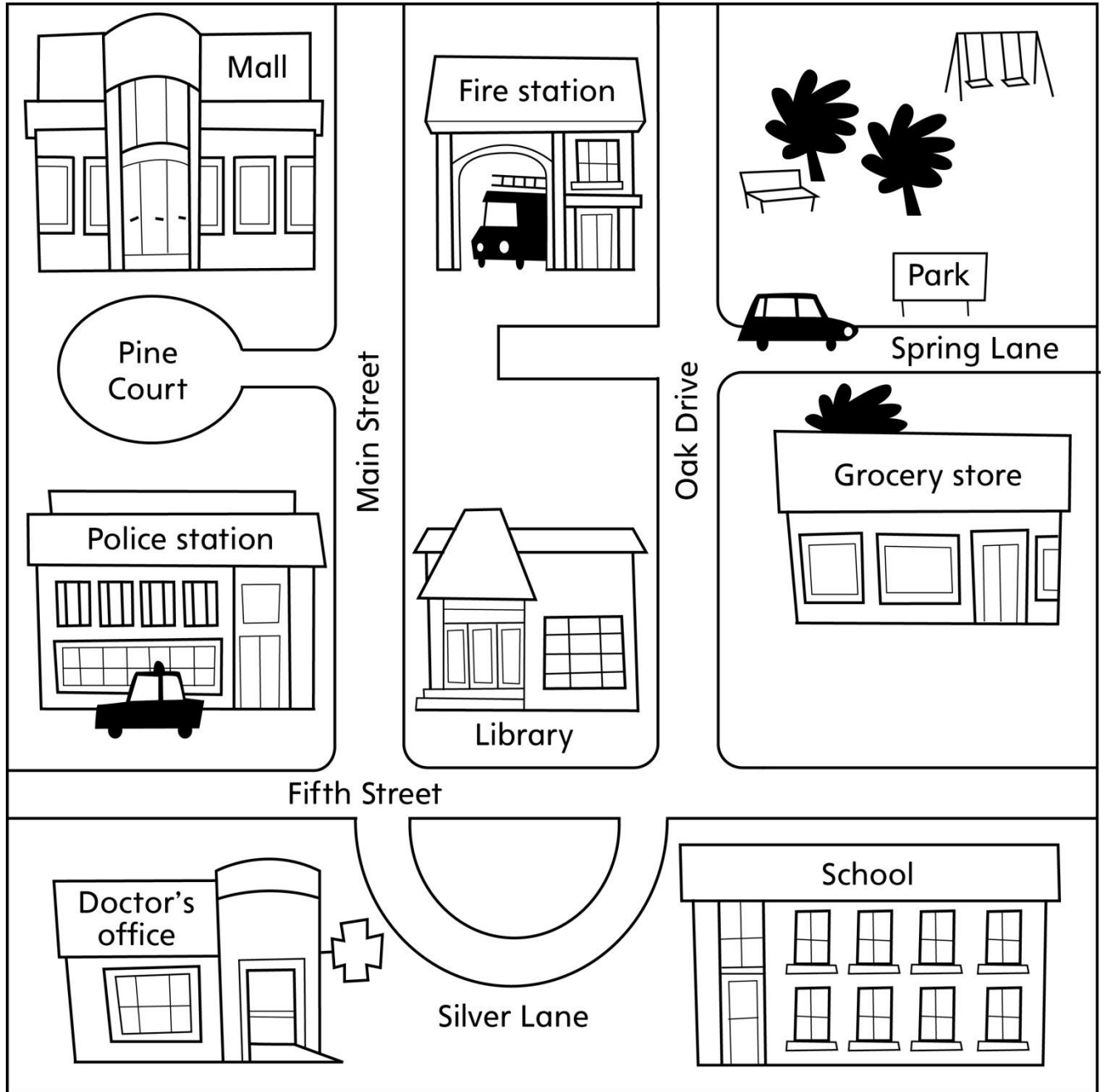
Math Every Day: Master 13   # Perspective Picture Cards
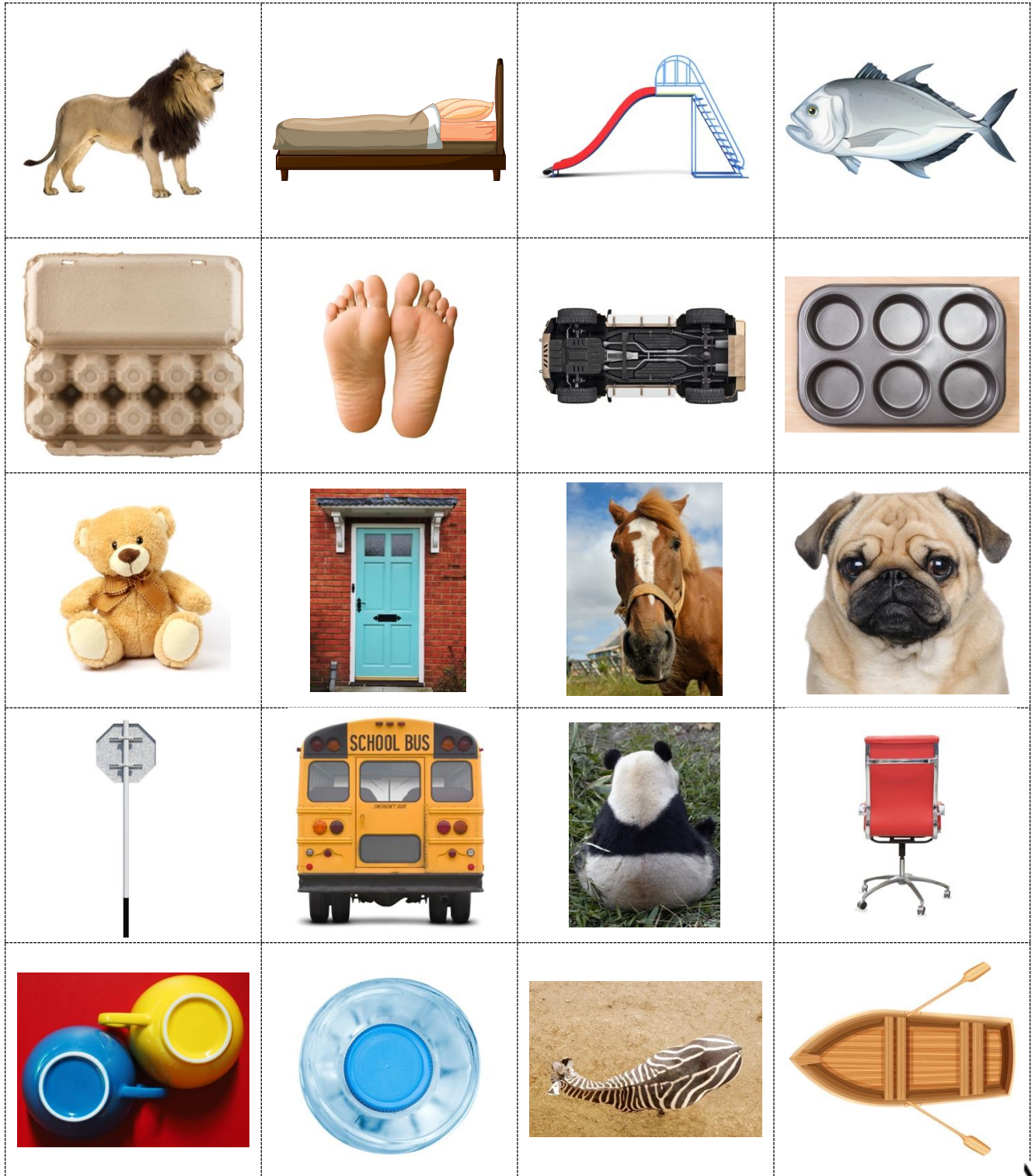
Math Every Day: Master 14   # View Cards

Side view	**Side view**	**Side view**	**Side view**
Bottom view	**Bottom view**	**Bottom view**	**Bottom view**
Front view	**Front view**	**Front view**	**Front view**
Back view	**Back view**	**Back view**	**Back view**
Top view	**Top view**	**Top view**	**Top view**

Math Every Day: Master 15   # Animal Faces

Name_____ Date _____

Sample Graphs

Our Favourite Fruit

				🍇	🍇	**Grapes**
	🍊	🍊	🍊	🍊	🍊	**Orange**
			🍌	🍌	🍌	**Banana**
	🍎	🍎	🍎	🍎	🍎	**Apple**

Math Every Day: Master 16b

Sample Graphs

Our Favourite Sport

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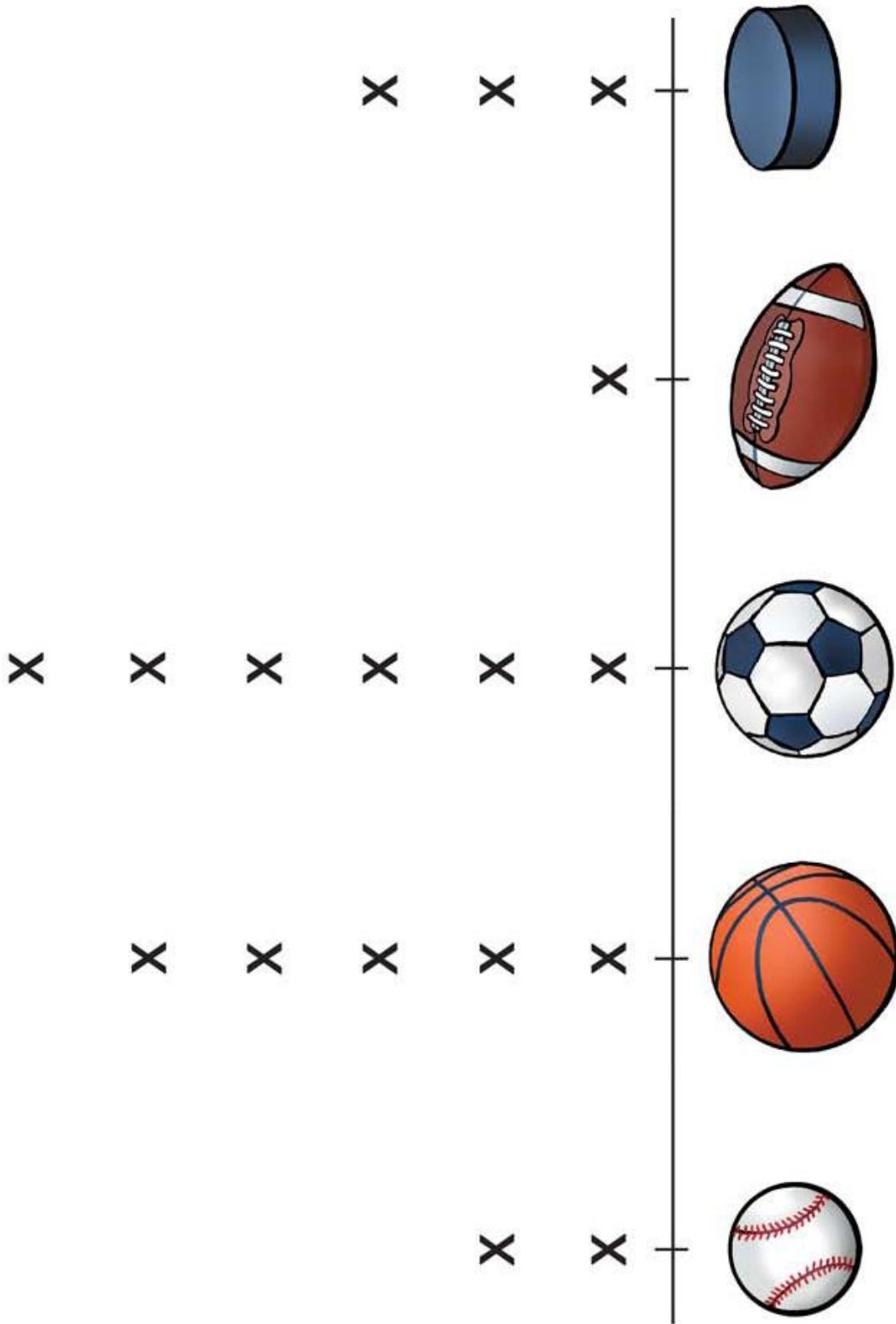
Name_____ Date _____

Sample Graphs

Pets We Have at Home

A bar graph titled "Pets We Have at Home" with a y-axis numbered 0 to 10. The bars show: Rabbit = 4, Dog = 8, Cat = 10, Goldfish = 6, Hamster = 5.

Name_____ Date _____

Ten-Frames

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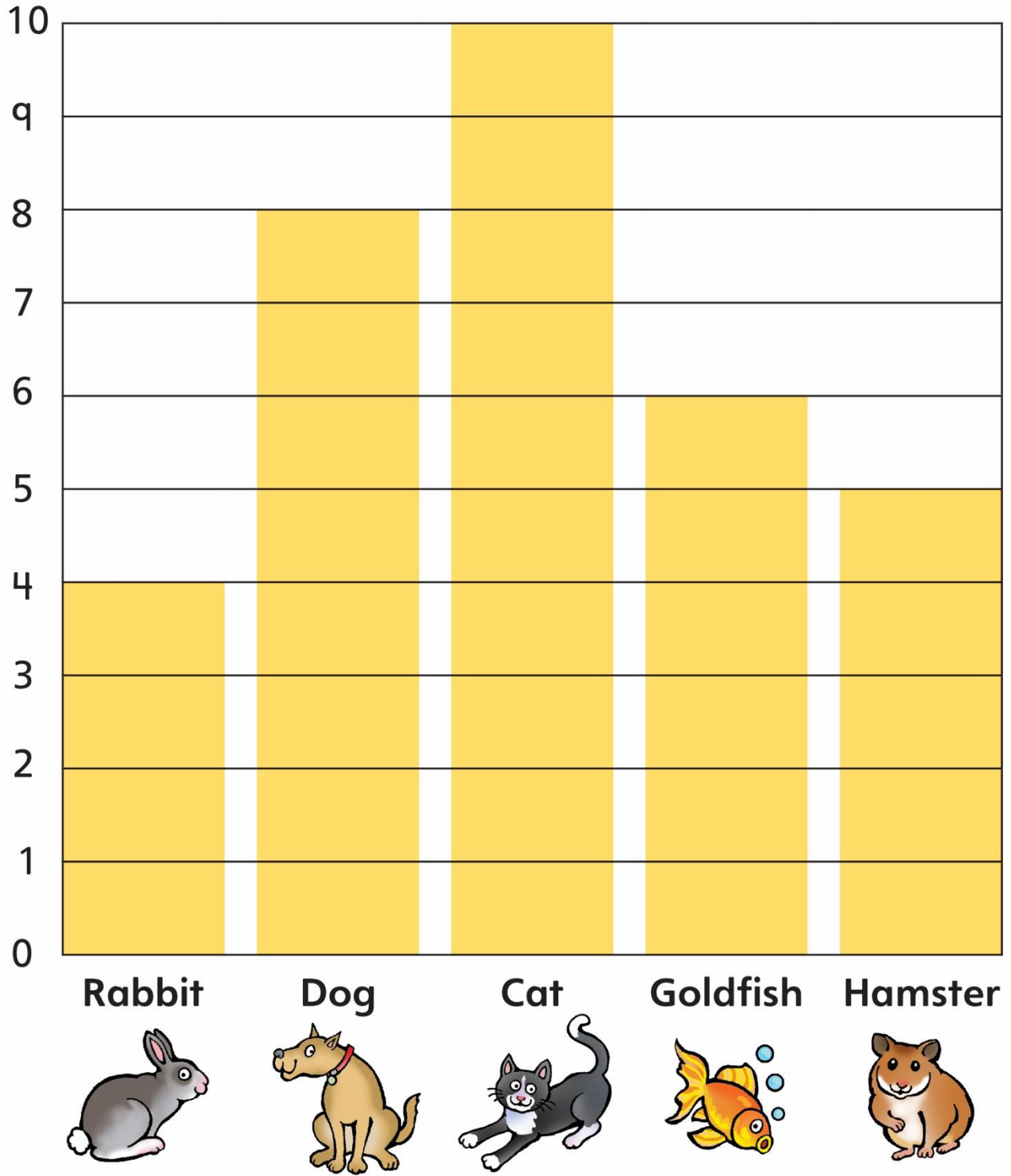
Name_____ Date _____

Place-Value Mat

Tens	Ones

My Number

Name_____ Date _____

Five-Frames

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Name_____ Date _____

Part-Part-Whole-Mat

Whole	Part
	Part

Name_____ Date _____

Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Name_____ Date _____

Sorting Mat

Yes	No

Name_____ Date _____

Graphing Mat

Title _____

Number Lines

Name_____ Date _____

Open Number Line

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Name_____ Date _____

Thermometer

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