

Mathology 1 Correlation (Number) –Northwest Territories

Learning Outcomes	MathologyGrade 1 Classroom	Mathology Little Books	Pearson Canada K-3 Mathematics Learning
	Activity Kit		Progression
1. Say the number sequence 0 to 100 by: • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100.	•	 Mathology Little Books On Safari! Paddling the River (to 20) To Scaffold: A Warm, Cozy Nest Let's Play Waltes! To Extend: What Would You Rather? Ways to Count 	



2. Subitize (recognize at a glance) and name familiar arrangements of 1 to 10 objects or dots.	Number Cluster 2: Spatial Reasoning	 Paddling the River That's 10! To Scaffold: Lots of Dots! Acorns for Wilaiya Spot Check! 	Big Idea: Numbers tell us how many and how much. Recognizing quantities by subitizing - Instantly recognizes quantities to 5 (i.e., perceptual subitizing). - Uses grouping (e.g., arrays of dots) to determine quantity without counting by ones (i.e., conceptual subitizing).
 3. Demonstrate an understanding of counting by: indicating that the last number said identifies "how many" showing that any set has only one count using counting-on 	Number Cluster 1: Counting	 How Many is Too Many? To Scaffold: Acorns for Wilaiya Let's Play Waltes! To Extend: Ways to Count 	Big Idea: Numbers tell us how many and how much. Applying the principles of counting - Knows that the last counting word tells "how many" objects in a set (i.e., cardinality). - Knows that rearranging objects in a set does not change the quantity (i.e., conservation of number). Big Idea: Quantities and numbers can be grouped
using parts or equal groups to count sets.	Leftovers • 16: Skip-Counting Consolidation *also Learning Outcomes 1 and 7	- Ways to count	by or partitioned into equal-sized units. Unitizing quantities and comparing units to the whole - Partitions 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).



4. Represent and describe	Number Cluster 5: Composing	• That's 10!	Big Idea: Numbers tell us how many and how much
numbers to 20, concretely,	and Decomposing	 Canada's Oldest Sport 	Applying the principles of counting
pictorially and symbolically	• 17: Decomposing 10	·	- Creates a set to match a verbal number or written
	• 18: Numbers to 10	To Scaffold:	numeral.
	• 19: Numbers to 20	 Dan's Doggy Daycare 	
	23: Composing and		Recognizing and writing numerals
	Decomposing Consolidation	To Extend:	- Names, writes, and matches numerals to numbers
	Decomposing consolidation	 Back to Batoche 	and quantities to 10.
		 A Class-full of Projects 	- Names, writes, and matches two-digit numerals to
		The Money Jar	quantities.
			Big idea: Numbers are related in many ways
			Decomposing wholes into parts and composing
			wholes from parts
			- Decomposes/composes quantities to 5.
			- Decomposes quantities to 10 into parts and
			remembers the whole.
			- Decomposes/composes quantities to 20.



5. Compare sets containing up to 20 elements, using: • referents • one-to-one correspondence to solve problems.	Number Cluster 3: Comparing and Ordering 9: Comparing Sets Concretely 10: Comparing Sets Pictorially 12: Comparing and Ordering Consolidation Link to other strands: Patterning and Algebra Cluster 3: Equality and Inequality* 10: Exploring Sets 11: Making Equal Sets *also P&R Outcome 4	 A Family Cookout At the Corn Farm How Many is Too Many? (sets to 50) Nutty and Wolfy To Scaffold: Animals Hide Acorns for Wilaiya To Extend: What Would You Rather? 	Big idea: Numbers are related in many ways Comparing and ordering quantities (multitude or magnitude) - Perceptually compares quantities to determine more/less or equal quantities - Knows that each successive number is one more than the previous number (i.e., hierarchical inclusion) - Compares (i.e., more/less/equal) and orders quantities to 10). - Adds/removes object(s) to make a set equal to a given set. - Compares and orders quantities and written numbers using benchmarks. - Orders three or more quantities to 20 using sets and/or numerals. Link to other strands: Understanding equality and inequality, building on generalized properties of numbers and operations - Creates a set that is more/less or equal to a given set
6. Estimate quantities to 20 by	Number Cluster 2: Spatial	A Family Cookout	Big Idea: Numbers are related in many ways.
using referents.	Reasoning • 7: Estimating Quantities • 8: Spatial Reasoning Consolidation* *also Learning Outcome 2	 (quantities to 50) At the Corn Farm (sets/quantities to 20) How Many is Too Many? (quantities to 50) To Scaffold: Acorns for Wilaiya 	Estimating quantities and numbers - Estimates small quantities of objects (to 10) of the same size Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10; multiples of ten).



7. Demonstrate an understanding of conservation of number.	Number Cluster 4: Skip-Counting* 13: Skip-Counting Forward 14: Skip-Counting with Leftovers 16: Skip-Counting Consolidation Number Cluster 5: Composing and Decomposing 21: Equal Groups 23: Composing and Decomposing Consolidation Number Cluster 6: Early Place Value** 24: Tens and Ones 25: Building and Naming Numbers 26: Different Representations 27: Early Place Value Consolidation	 A Family Cookout How Many is Too Many? To Extend: Ways to Count Marbles, Alleys, Mibs, and Guli! 	Big Idea: Numbers tell us how many and how much. Applying the principles of counting - Knows that rearranging objects in a set does not change the quantity (i.e., conservation of number). 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) - Composes teen numbers from units of ten and ones and decomposes teen numbers into units of ten with leftover ones. - Bundles quantities into tens and ones. - Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones. 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
	*also Learning Outcomes 1 and 3; include numbers to 50 **include numbers to 50		by 5s gives the same result). 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. - Models and solves equal sharing problems to 10 - Groups objects in 2s, 5s, and 10s.
8. Identify the number, up to 20, that is: • one more • two more • one less • two less than a given number.	Number Cluster 7: Operational Fluency • 28: More or Less	 On Safari! Paddling the River How Many is Too Many? To Scaffold: Animals Hide 	Big idea: Numbers are related in many ways. Comparing and ordering quantity (multitude or magnitude) - Knows what number is one or two more and one or two less than another number.



9. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially and symbolically, by:

- using familiar mathematical language to describe additive and subtractive actions
- creating and solving problems in context that involve addition and subtraction
- modelling addition and subtraction, using a variety of concrete and visual representations, and recording the process symbolically.

Number Cluster 7: Operational Fluency

- 29: Adding to 20
- 31: The Number Line
- 33: Part-Part-Whole
- 34: Solving Story Problems
- 35: Operational Fluency Consolidation

- That's 10! (to 10)
- Hockey Time
- Cats and Kittens
- Buy 1 Get 1
- Canada's Oldest Sport

To Extend:

- Marbles, Alleys, Mibs, and Guli!
- The Money Jar
- The Great Dogsled Race

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.
- Uses symbols and equations to represent addition and subtraction situations.
- Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare).



10. Describe and use mental mathematics strategies for basic addition facts and related subtraction facts to 18.

Number Cluster 7: Operational Fluency

- 28: More or Less*
- 29: Adding to 20**
- 30: Subtracting to 20
- 32: Doubles
- 33: Part-Part-Whole**

*also Learning Outcome 8
**also Learning Outcome 9

- On Safari! (one more, two more, doubling)
- That's 10! (counting on, making ten)
- Hockey Time! (doubles, counting on, counting back, differences)
- Cats and Kittens! (counting, known facts, commutative property)
- Buy 1 Get 1 (doubles, near doubles, counting, known facts)
- Canada's Oldest Sport (counting on, countingback, doubles, benchmarks)

To Scaffold:

• Animals Hide (one more, two more)

To Extend:

 Marbles, Alleys, Mibs, and Guli! (doubles, making tens, counting on)

Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.

Developing fluency of addition and subtraction

- Fluently adds and subtracts with quantities to 10.
- Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3).
- Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6).
- Fluently adds and subtracts with quantities to 20

Big idea: Numbers are related in many ways.

Comparing and ordering quantity (multitude or magnitude)

- Knows what number is one or two more and one or two less than another number.





Mathology 1 Correlation (Patterns and Relations) –Northwest Territories

Learning Outcomes	MathologyGrade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
1. Demonstrate an understanding of repeating patterns (two to four elements) by:	Patterning and Algebra Cluster 1: Investigating Repeating Patterns 1: Repeating the Core* 3: Predicting Elements 4: Finding Patterns*** 5: Investigating Repeating Patterns Consolidation** Patterning and Algebra Cluster 2: Creating Patterns 6: Extending Patterns** 8: Errors and Missing Elements** *also Patterns and Relations (P&R) Outcomes 1 and 3 **also P&R Outcome 3 ***also Number Outcome 1	 Midnight and Snowfall To Scaffold: A Lot of Noise We Can Bead! To Extend: Pattern Quest 	Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Identifying, reproducing, extending, and creating patterns that repeat - Identifies and reproduces repeating patterns by matching elements involving sounds, actions, shapes, objects, etc Extends repeating patterns. - Distinguishes between repeating and non-repeating sequences. - Identifies the repeating unit (core) of a pattern. - Predicts missing element(s) and corrects errors in repeating patterns. - Recognizes similarities and differences between patterns. - Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core).



2. Translate repeating patterns from one representation to another.	Patterning and Algebra Cluster 1: Investigating Repeating Patterns 1: Repeating the Core* 2: Representing Patterns Patterning and Algebra Cluster 2: Creating Patterns 7: Translating Patterns 8: Errors and Missing Elements** 9: Creating Patterns Consolidation *also P&R Outcomes 1 and 3 **also P&R Outcome 1	 Midnight and Snowfall To Scaffold: A Lot of Noise 	Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Identifying, sorting, and classifying attributes and patterns mathematically (e.g., numbers of sides, shape, size) - Records and symbolizes attributes in different ways (e.g., using drawings, words, letters). Identifying, reproducing, extending, and creating patterns that repeat - Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions).
3. Sort objects, using one attribute, and explain the sorting rule.	Patterning and Algebra Cluster 1: Investigating Repeating Patterns 1: Repeating the Core* 5: Investigating Repeating Patterns Consolidation** Patterning and Algebra Cluster 2: Creating Patterns 6: Extending Patterns** Link to other strands: Geometry Cluster 1: 2-D Shapes*** 1: Sorting Shapes 2: Identifying Triangles 3: Identifying Rectangles 5: Sorting Rules 6: 2-D Shapes Consolidation Geometry Cluster 2: 3-D Solids*** 7: Exploring 3-D Solids 8: Sorting 3-D Solids 9: Identifying the Sorting Rule 10: 3-D Solids Consolidation *also P&R Outcomes 1 and 2 **also P&R Outcome 1 ***also Shape and Space (SS): Geometry Outcome 2	 Midnight and Snowfall What Was Here? Graph It! To Scaffold: We Can Bead! The Castle Wall Hedge and Hog 	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 different attributes of objects (e.g., buttons with different sizes, colours, shapes, number of holes). - Identifies variations of an attribute (e.g., buttons can have 0, 2, or 4 holes). - Sorts a set of objects in different ways using a single attribute (e.g., buttons sorted by the number of holes or by shape). - Identifies the sorting rule used to sort sets.



4. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).	Patterning and Algebra Cluster 3: Equality and Equality 10: Exploring Sets* 11: Making Equal Sets* 13: Equality and Inequality Consolidation** *also Number Outcome 5 **also P&R Outcome 5	 Nutty and Wolfy That's 10! To Extend: Kokum's Bannock 	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. - Creates a set that is more/ less or equal to a given set. - Models and describes equality (balance; the same as) and inequality (imbalance; not the same as).
5. Record equalities, using the equal symbol.	Patterning and Algebra Cluster 3: Equality and Equality • 12: Using Symbols • 13: Equality and Inequality Consolidation* *also P&R Outcome 4	 Nutty and Wolfy To Extend: Kokum's Bannock Family Fun Day Array's Bakery 	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 - Writes equivalent addition and subtraction equations in different forms (e.g., 8 = 5 + 3; 3 + 5 = 8). 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). - Understands and uses the equal (=) and not equal (≠) symbols when comparing expressions.





Mathology 1 Correlation (Shape and Space: Measurement) –Northwest Territories

Learning Outcomes	MathologyGrade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
1. Demonstrate an understanding of measurement as a process of comparing by: identifying attributes that can be compared ordering objects making statements of comparison filling, covering or matching.	MathologyGrade 1 Classroom Activity Kit Measurement Cluster 1: Comparing Objects 1: Comparing Length 2: Comparing Mass 3: Comparing Capacity 4: Making Comparisons 5: Comparing Area 6: Comparing Objects Consolidation	 Mathology Little Books The Amazing Seed Animal Measures To Scaffold: To Be Long The Best in Show To Extend: Getting Ready for School The Discovery 	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). - Uses language to describe attributes (e.g., long, tall, short, wide, heavy). - Understands that some things have more than one attribute that can be measured (e.g., an object can have both length and mass). - 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). Directly and indirectly comparing and ordering objects with the same measurable attribute - Directly compares and orders objects by length (e.g., by aligning ends), mass (e.g., using a balance scale), and area (e.g., by covering). - Compares objects indirectly by using an intermediary object. - Uses relative attributes to compare and order (e.g., longer/longest, taller/tallest, shorter/shortest).





Mathology 1 Correlation (Shape and Space: 3-D Objects and 2-D Shapes) –Northwest Territories

Learning Outcomes	MathologyGrade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.	Geometry Cluster 1: 2-D Shapes* 1: Sorting Shapes 2: Identifying Triangles 3: Identifying Rectangles 4: Visualizing Shapes 5: Sorting Rules 6: 2-D Shapes Consolidation Geometry Cluster 2: 3-D Solids* 7: Exploring 3-D Solids 8: Sorting 3-D Solids 9: Identifying the Sorting Rule 10: 3-D Solids Consolidation *also P&R Outcome 3	 What Was Here? The Tailor Shop Memory Book To Scaffold: Zoom In, Zoom Out The Castle Wall To Extend: I Spy Awesome Buildings 	Patterning and Algebra Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Identifying, sorting, and classifying attributes and patterns mathematically (e.g., numbers 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). - Identifies the sorting rule used to sort sets. 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. - Analyzes geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners).



3. Replicate composite 2-D shapes and 3-D objects.	Geometry Cluster 3: Geometric Relationships 11: Faces of Solids* 12: Making Designs 13: Covering Outlines 14: Identifying Shapes 15: Geometric Relationships Consolidation *also SS: Geometry Outcome 4	 The Tailor Shop To Scaffold: The Castle Wall To Extend: Sharing Our Stories 	Big idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes. Investigating 2-D shapes, 3-D solids, and their attributes through composition and decomposition - Models and draws 2-D shapes and 3-D solids from component parts. - Constructs composite pictures or structures with 2-D shapes and 3-D solids. - Constructs and identifies new 2-D shapes and 3-D solids as a composite of other 2-D shapes and 3-D solids. - Decomposes and 2-D shapes and 3-D solids into other known 2-D shapes and 3-D solids. - Completes a picture outline with shapes in more than one way.
4. Compare 2-D shapes to parts of 3-D objects in the environment.	Geometry Cluster 2: 3-D Solids 11: Faces of Solids** *also SS: Geometry Outcome 3	 What Was Here? Memory Book To Extend: I Spy Awesome Buildings 	Big idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes. Investigating geometric properties and properties of 2-D shapes and 3-D solids - Recognizes 2-D shapes and 3-D solids embedded in other images or objects. - Identifies 2-D shapes in 3-D objects in the environment.



Note: The following activities are not specifically correlated to the Northwest Territories learning outcomes for Grade 1 but may be of interest to teachers in preparing a strong foundation for mathematics:

NumberActivity 4: Ordinal Numbers

NumberActivity 11: Comparing Numbers to 50

NumberActivity 15: Skip-Counting Backward

NumberActivity 20: Money Amounts

NumberActivity 22: Equal Parts (introduction to fractions)

NumberActivities 36 – 40: Financial Literacy

Geometry Cluster 4 Activities 16-18: Symmetry (Note: Symmetry is a Grade 4 Learning Outcome)

Geometry Cluster 5 Activities 19-21: Location and Movement

Measurement Cluster 2 Activities 7-14: Using Uniform Units

Measurement Cluster 3 Activities 15-21: Time and Temperature

Data Management and Probability Cluster 1 Activities 1-4: Data Management

Data Management and Probability Cluster 2 Activities 5-6: Probability and Chance



