Mathology 1 Correlation (Number Strand) - Manitoba

Learning Outcomes	Mathology Grade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
1.N.1. Say the number sequence by • 1s forward and backward between any two given numbers (0 to 100) • 2s to 30, forward, starting at 0 • 5 and 10s to 100, forward starting at 0	**Number Cluster 1: Counting** • 1: Counting to 20 • 2: Counting to 50 **Number Cluster 4: Skip-Counting*** • 13: Skip-Counting Forward • 14: Skip-Counting with Leftovers • 16: Skip-Counting Consolidation **Number Cluster 8: Financial Literacy**** • 37: Counting Collections • 40: Financial Literacy Consolidation *Link to other strands:* ***Patterning and Algebra Cluster 1: Investigating Repeating Patterns*** • *4: Finding Patterns* *also 1.N.3 and 1.N.7; activities include numbers to 50 **Financial Literacy is not specifically required by the Manitoba curriculum	• 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	**Big Idea: Numbers tell us how many and how much.** Applying the principles of counting (number sequence) - Says the number name sequence starting with 1 and counting forward. - Coordinates number words with counting actions, saying one word for each objects (i.e., one-to-one correspondence/tagging). - Says the number name sequence backward from numbers to 10. - Knows that the last counting word tells "how many "objects in a set (i.e., cardinality). - Says the number name sequence forward through the teen numbers. - Says the number name sequences forward and backward from a given number. - Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41). - Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number. *Link to other strands:* *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).*

1.N.2. Subitize and name familiar arrangements of 1 to 10 dots (or objects).	**Number Cluster 2: Spatial Reasoning** • 6: Subitizing to 10 • 8: Spatial Reasoning Consolidation* *also 1.N.6	• 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).
1.N.3. Demonstrate an understanding of counting by • using the counting-on strategy • using parts or equal groups to count sets	**Number Cluster 1: Counting** • 3: Counting On and Back • 5: Counting Consolidation **Number Cluster 4: Skip Counting*** • 13: Skip-Counting Forward • 14: Skip-Counting with Leftovers • 16: Skip-Counting Consolidation *also 1.N.1 and 1.N.7	• 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 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 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).

1.N.4. Represent and describe numbers to 20, concretely, pictorially and symbolically.	**Number Cluster 5: Composing and Decomposing** • 17: Decomposing 10 • 18: Numbers to 10 • 19: Numbers to 20 • 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 *also 1.N.7; activities include numbers to 50	• That's 10! • Canada's Oldest Sport **To Scaffold:** • Dan's Doggy Daycare **To Extend:** • Back to Batoche • A Class-full of Projects • The Money Jar	**Big Idea: Numbers tell us how many and how much.** Applying the principles of counting - Creates a set to match a verbal number or written numeral. Recognizing and writing numerals - Names, writes, and matches numerals to numbers and quantities to 10. - Names, writes, and matches two-digit numerals to 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. **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.

1.N.5. Compare and order sets containing up to 20 elements to solve problems using • referents • one-to-one correspondence	**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*	• 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*
1.N.6. Estimate quantities to 20 by using referents.	**Number Cluster 2: Spatial Reasoning** • 7: Estimating Quantities • 8: Spatial Reasoning Consolidation* *also 1.N.2	• A Family Cookout *(quantities to 50)* • At the Corn Farm *(sets/quantities to 20)* • How Many is Too Many? *(quantities to 50)* **To Scaffold:** • Acorns for Wilaiya	**Big Idea: Numbers are related in many ways.** 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).

1.N.7. Demonstrate, concretely and pictorially, how a number, up to 30, can be represented by a variety of equal groups with and without singles.	**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 *also 1.N.1 and 1.N.3; activities include numbers to 50 **also 1.N.4; activities include numbers to 50	• 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 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.
1.N.8. Identify the number, up to 20, that is one more, two more, one less, and 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.

1.N.9. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially, and symbolically, by • using familiar and mathematical language to describe additive and subtractive actions from their experience • 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).

1.N.10. Describe and use mental mathematics strategies including • counting on, counting back • one more, one less • making ten • starting from known doubles • using addition to subtract to determine the basic addition and related subtraction facts. **recall of one more, one less, compatible numbers for 5 and 10, doubles up to 5+5, and related subtraction facts is expected by the end of Grade One.*	**Number Cluster 7: Operational Fluency** • 28: More or Less* • 29: Adding to 20** • 30: Subtracting to 20 • 32: Doubles • 33: Part-Part-Whole** *also 1.N.8 **also 1.N.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, counting back, 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.

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

Activity 4: Ordinal Numbers

Activity 11: Comparing Numbers to 50

Activity 15: Skip-Counting Backward

Activity 20: Money Amounts

Activity 22: Equal Parts *(introduction to fractions)*

Activities 36 – 40: Financial Literacy

Mathology 1 Correlation (Patterns and Relations) - Manitoba

Learning Outcomes	Mathology Grade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
1.PR.1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions.	**Patterning and Algebra Cluster 1: Investigating Repeating Patterns** • 1: Repeating the Core • 2: Representing Patterns* • 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 • 9: Creating Patterns Consolidation* *also 1.PR.2	• 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).

1.PR.2. Translate repeating patterns from one representation to another.	**Patterning and Algebra Cluster 1: Investigating Repeating Patterns** • 2: Representing Patterns* **Patterning and Algebra Cluster 2: Creating Patterns** • 7: Translating Patterns • 9: Creating Patterns Consolidation* *also 1.PR.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).
1.PR.3. 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 1.N.5 **also 1.PR.4	• 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).
1.PR.4. Record equalities, using the equal symbol (0 to 20).	**Patterning and Algebra Cluster 3: Equality and Equality** • 12: Using Symbols • 13: Equality and Inequality Consolidation* *also 1.PR.3	• 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) – Manitoba

Learning Outcomes	Mathology Grade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
1.SS.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.	**Measurement Cluster 1: Comparing Objects** • 1: Comparing Length • 2: Comparing Mass • 3: Comparing Capacity • 4: Making Comparisons • 5: Comparing Area • 6: Comparing Objects Consolidation	• 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) – Manitoba

Learning Outcomes	Mathology Grade 1 Classroom Activity Kit	Mathology Little Books	Pearson Canada K-3 Mathematics Learning Progression
1.SS.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	• 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).

1.SS.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 1.SS.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.
1.SS.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 1.SS.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 Manitoba learning outcomes for Grade 1 but may be of interest to teachers in preparing a strong foundation for mathematics:

Geometry Cluster 4 Activities 16-18: Symmetry

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