Mathology 1 Correlation (Number Strand) – Ontario*

<table>
<thead>
<tr>
<th>Curriculum Expectations</th>
<th>Mathology Grade 1 Classroom Activity Kit</th>
<th>Mathology Little Books</th>
<th>Pearson Canada K-3 Mathematics Learning Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Expectation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.1 Quantity Relations: Read, represent, compare, and order whole numbers to 50, and use concrete materials to investigate fractions and money amounts.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1.1 Represent, compare, and order whole numbers to 50, using a variety of tools and contexts</td>
<td><strong>Number Cluster 3: Comparing and Ordering</strong></td>
<td><strong>A Family Cookout</strong></td>
<td><strong>Big idea: Numbers are related in many ways</strong></td>
</tr>
<tr>
<td></td>
<td>• 9: Comparing Sets Concretely</td>
<td>• At the Corn Farm</td>
<td>Comparing and ordering quantities (multitude or magnitude)</td>
</tr>
<tr>
<td></td>
<td>• 10: Comparing Sets Pictorially</td>
<td>• How Many is Too Many?</td>
<td>- Perceptually compares quantities to determine more/less or equal quantities</td>
</tr>
<tr>
<td></td>
<td>• 11: Comparing Numbers to 50</td>
<td>• Nutty and Wolfy</td>
<td>- Knows that each successive number is one more than the previous number (i.e., hierarchical inclusion)</td>
</tr>
<tr>
<td></td>
<td>• 12: Comparing and Ordering</td>
<td></td>
<td>- Compares (i.e., more/less/equal) and orders quantities to 10).</td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td></td>
<td>- Adds/removes object(s) to make a set equal to a given set.</td>
</tr>
<tr>
<td></td>
<td><strong>Number Cluster 6: Early Place Value</strong></td>
<td><strong>To Scaffold:</strong></td>
<td>- Compares and orders quantities and written numbers using benchmarks.</td>
</tr>
<tr>
<td></td>
<td>• 24: Tens and Ones</td>
<td>• Animals Hide</td>
<td>- Orders three or more quantities to 20 using sets and/or numerals.</td>
</tr>
<tr>
<td></td>
<td>• 25: Building and Naming Numbers</td>
<td>• Acorns for Wilaiya</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 26: Different Representations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 27: Early Place Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consolidation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Link to other strands:</strong></td>
<td><strong>Patterning and Algebra Cluster 3: Equality and Inequality</strong></td>
<td><strong>To Extend:</strong></td>
<td><strong>Big idea: Quantities and numbers can be grouped by or partitioned into equal-sized units</strong></td>
</tr>
<tr>
<td></td>
<td>• 10: Exploring Sets</td>
<td>• What Would You Rather?</td>
<td>- Bundles quantities into tens and ones.</td>
</tr>
<tr>
<td></td>
<td>• 11: Making Equal Sets</td>
<td></td>
<td>- Writes, reads, composes, and decomposes two-digit numbers as units of tens and leftover ones.</td>
</tr>
<tr>
<td></td>
<td><strong>also N1.4</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*codes given to curriculum expectations are for cross-referencing purposes only
| **N1.2** Read and print in words whole numbers to ten, using meaningful contexts | **Number Cluster 1: Counting**  
- 1: Counting to 20*  
**Number Cluster 2: Spatial Reasoning**  
- 6: Subitizing to 10  
*also N1.3, N2.1, and N2.2 | **Big Idea:** Numbers tell us how many and how much.  
Recognizing and writing numerals  
- Names, writes, and matches numerals to numbers and quantities to 10. |  
- On Safari!  
- That’s 10!  
- Hockey Time!  
- Cats and Kittens!  
- Buy 1 – Get 1  
- Canada’s Oldest Sport  
|  
- **N1.3** Demonstrate, using concrete materials, the concept of conservation of number (e.g., 5 counters represent the number 5, regardless whether they are close together or far apart). | **Number Cluster 1: Counting**  
- 1: Counting to 20*  
- 2: Counting to 50**  
- 5: Counting Consolidation***  
*also N1.2, N2.1, and N2.2  
**also N2.1 and N2.2  
***also N2.1 and N2.3  
| **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). |  
- Paddling the River  
- How Many is Too Many?  
- To Scaffold:  
  - Lots of Dots!  
  - Spot Check!  
|  
- **N1.4** Relate numbers to the anchors of 5 and 10 | **Number Cluster 5: Composing and Decomposing**  
- 17: Decomposing 10  
- 18: Numbers to 10  
- 19: Numbers to 20  
**Number Cluster 6: Early Place Value**  
- 24: Tens and Ones  
- 25: Building and Naming Numbers  
- 26: Different Representations  
- 27: Early Place Value Consolidation  
*also N1.8  
**also N1.1  
| **Big idea:** Numbers are related in many ways  
Comparing and ordering quantities (multitude or magnitude)  
- Compares and orders quantities and written numbers using benchmarks.  
- Determines how many more/less one quantity is compared to another.  
Estimating quantities and numbers  
- Uses relevant benchmarks to compare and estimate quantities (e.g., more/less than 10).  
|  
- At the Corn Farm  
- How Many is Too Many?  
- That’s 10!  
- Hockey Time!  
|  
- **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.  
<p>|</p>
<table>
<thead>
<tr>
<th>N1.5 Identify and describe various coins, using coin manipulatives or drawings, and state their value</th>
<th><strong>Number Cluster 8: Financial Literacy</strong></th>
<th>• 36: Values of Coins</th>
<th>• Canada’s Oldest Sport (Comparing Coins activity from Home Connection Options on p. 3)</th>
<th>No direct correlation</th>
</tr>
</thead>
</table>
| N1.6 Represent money amounts to 20¢, through investigation using coin manipulatives | **Number Cluster 5: Composing and Decomposing** | • 20: Money Amounts*  
• 23: Composing and Decomposing Consolidation** | **To Extend:**  
• Family Fun Day (coins and bills)  
• Back to Batoche  
• The Money Jar | **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.  
- Composes and decomposes quantities to 20. |
| | **Number Cluster 8: Financial Literacy*** | • 37: Counting Collections  
• 40: Financial Literacy Consolidation | | |
| | | *also N1.8 and N3.3  
**also N1.8 and N1.9  
***also N2.2; uses cents and dollars; Financial Literacy is not specifically required by the Ontario curriculum | | |
| N1.7 Estimate the number of objects in a set, and check by counting | **Number Cluster 2: Spatial Reasoning** | • 7: Estimating Quantities  
• 8: Spatial Reasoning Consolidation | • A Family Cookout (quantities to 50)  
• At the Corn Farm (sets/quantities to 20)  
• How Many is Too Many? (quantities to 50) | **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). |
| | | | **To Scaffold:**  
• Acorns for Wilaiya | |
<table>
<thead>
<tr>
<th>N1.8</th>
<th>Compose and decompose numbers up to 20 in a variety of ways, using concrete materials</th>
<th>Number Cluster 5: Composing and Decomposing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 17: Decomposing 10*</td>
<td>• Paddling the River</td>
</tr>
<tr>
<td></td>
<td>• 18: Numbers to 10*</td>
<td>• At the Corn Farm</td>
</tr>
<tr>
<td></td>
<td>• 19: Numbers to 20*</td>
<td>• That’s 10! (to 10)</td>
</tr>
<tr>
<td></td>
<td>• 20: Money Amounts**</td>
<td>• Hockey Time!</td>
</tr>
<tr>
<td></td>
<td>• 23: Composing and Decomposing Consolidation***</td>
<td>To Scaffold:</td>
</tr>
<tr>
<td></td>
<td>*also N1.4</td>
<td>• Dan’s Doggy Daycare</td>
</tr>
<tr>
<td></td>
<td>**also N1.6 and N3.3</td>
<td>To Extend:</td>
</tr>
<tr>
<td></td>
<td>***also N1.6 and N1.9</td>
<td>• Back to Batoche</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A Class-full of Projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The Money Jar</td>
</tr>
<tr>
<td>N1.9</td>
<td>Divide whole objects into parts and identify and describe, through investigation, equal-sized parts of the whole, using fractional names</td>
<td>Number Cluster 5: Composing and Decomposing</td>
</tr>
<tr>
<td></td>
<td>• 22: Equal Parts</td>
<td>To Extend:</td>
</tr>
<tr>
<td></td>
<td>• 23: Composing and Decomposing Consolidation*</td>
<td>• The Best Birthday</td>
</tr>
<tr>
<td></td>
<td>*also N1.6 and 1.8</td>
<td>Big Idea:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantities and numbers can be</td>
</tr>
<tr>
<td></td>
<td></td>
<td>grouped by or partitioned into</td>
</tr>
<tr>
<td></td>
<td></td>
<td>equal-sized units.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Partitioning quantities to form</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fractions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Visually compares fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sizes and names fractional</td>
</tr>
<tr>
<td></td>
<td></td>
<td>amounts informally (e.g.,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>halves).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Partitions wholes into</td>
</tr>
<tr>
<td></td>
<td></td>
<td>equal-sized parts to make</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fair shares or equal groups.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Partitions wholes (e.g.,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>intervals, sets) into equal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>parts and names the unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fractions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Relates the size of parts to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the number of equal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>parts in a whole (e.g., a whole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cut into 2 equal pieces has</td>
</tr>
<tr>
<td></td>
<td></td>
<td>larger parts than a whole cut</td>
</tr>
<tr>
<td></td>
<td></td>
<td>into 3 equal pieces).</td>
</tr>
</tbody>
</table>
# Overall Expectation

<table>
<thead>
<tr>
<th>N2.1</th>
<th>Demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Number Cluster 1: Counting</strong></td>
</tr>
<tr>
<td></td>
<td>• 1: Counting to 20*</td>
</tr>
<tr>
<td></td>
<td>• 2: Counting to 50**</td>
</tr>
<tr>
<td></td>
<td>• 3: Counting On and Back***</td>
</tr>
<tr>
<td></td>
<td>• 5: Counting Consolidation****</td>
</tr>
<tr>
<td></td>
<td>*also N1.2, N1.3, and N2.2</td>
</tr>
<tr>
<td></td>
<td>**also N1.3, N2.2</td>
</tr>
<tr>
<td></td>
<td>***also N2.3</td>
</tr>
<tr>
<td></td>
<td>****also N1.3 and N2.3</td>
</tr>
<tr>
<td></td>
<td><strong>To Scaffold:</strong></td>
</tr>
<tr>
<td></td>
<td>• A Warm, Cozy Nest</td>
</tr>
<tr>
<td></td>
<td>• Animals Hide</td>
</tr>
<tr>
<td></td>
<td>• Acorns for Wilaiya</td>
</tr>
<tr>
<td></td>
<td><strong>Big Idea:</strong> Numbers tell us how many and how much.</td>
</tr>
<tr>
<td></td>
<td>Applying the principles of counting</td>
</tr>
<tr>
<td></td>
<td>- Coordinates number words with counting actions, saying one word for each object (i.e., one-to-one correspondence/tagging).</td>
</tr>
<tr>
<td>N2.2</td>
<td>Count forward by 1's, 2's, 5's, and 10's to 100, using a variety of tools and strategies</td>
</tr>
<tr>
<td></td>
<td><strong>Number Cluster 1: Counting</strong></td>
</tr>
<tr>
<td></td>
<td>• 1: Counting to 20*</td>
</tr>
<tr>
<td></td>
<td>• 2: Counting to 50**</td>
</tr>
<tr>
<td></td>
<td><strong>Number Cluster 4: Skip-Counting</strong></td>
</tr>
<tr>
<td></td>
<td>• 13: Skip-Counting Forward</td>
</tr>
<tr>
<td></td>
<td>• 14: Skip-Counting with Leftovers</td>
</tr>
<tr>
<td></td>
<td>• 16: Skip-Counting Consolidation***</td>
</tr>
<tr>
<td></td>
<td><strong>Number Cluster 8: Financial Literacy</strong>**</td>
</tr>
<tr>
<td></td>
<td>• 37: Counting Collections</td>
</tr>
<tr>
<td></td>
<td>• 40: Financial Literacy: Consolidation</td>
</tr>
<tr>
<td></td>
<td>*also N1.2, N1.3, and N2.1</td>
</tr>
<tr>
<td></td>
<td>**also N1.3 and N2.1</td>
</tr>
<tr>
<td></td>
<td>***also N2.4</td>
</tr>
<tr>
<td></td>
<td>****also N1.6</td>
</tr>
<tr>
<td></td>
<td><strong>To Scaffold:</strong></td>
</tr>
<tr>
<td></td>
<td>• A Warm, Cozy Nest</td>
</tr>
<tr>
<td></td>
<td>• Let's Play Waltes!</td>
</tr>
<tr>
<td></td>
<td><strong>To Extend:</strong></td>
</tr>
<tr>
<td></td>
<td>• What Would You Rather?</td>
</tr>
<tr>
<td></td>
<td>• Ways to Count</td>
</tr>
<tr>
<td></td>
<td><strong>Big Idea:</strong> Numbers tell us how many and how much.</td>
</tr>
<tr>
<td></td>
<td>Applying the principles of counting (number sequence)</td>
</tr>
<tr>
<td></td>
<td>- Says the number name sequence starting with 1 and counting forward.</td>
</tr>
<tr>
<td></td>
<td>- Coordinates number words with counting actions, saying one word for each objects (i.e., one-to-one correspondence/tagging).</td>
</tr>
<tr>
<td></td>
<td>- Says the number name sequence backward from numbers to 10.</td>
</tr>
<tr>
<td></td>
<td>- Knows that the last counting word tells “how many “objects in a set (i.e., cardinality).</td>
</tr>
<tr>
<td></td>
<td>- Says the number name sequence forward through the teen numbers.</td>
</tr>
<tr>
<td></td>
<td>- Says the number name sequences forward and backward from a given number.</td>
</tr>
<tr>
<td></td>
<td>- Uses number patterns to bridge tens when counting forward and backward (e.g., 39, 40, 41).</td>
</tr>
<tr>
<td></td>
<td>- Fluently skip-counts by factors of 10 (e.g., 2, 5, 10) and multiples of 10 from any given number.</td>
</tr>
<tr>
<td>Big idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Unitizing quantities and comparing units to the whole</td>
<td></td>
</tr>
<tr>
<td>- 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).</td>
<td></td>
</tr>
<tr>
<td>- Recognizes that, for a given quantity, increasing the number of sets decreases the number of objects in each set.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Big idea: Quantities and numbers can be grouped by, and partitioned into, units to determine how many or how much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing conceptual meaning of multiplication and division</td>
</tr>
<tr>
<td>- Groups objects in 2s, 5, and 10s.</td>
</tr>
</tbody>
</table>

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).

<table>
<thead>
<tr>
<th>N2.3 Count backwards by 1’s from 20 and any number less than 20 with and without the use of concrete materials and number lines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number Cluster 1: Counting</strong></td>
</tr>
<tr>
<td>• 3: Counting On and Back*</td>
</tr>
<tr>
<td>• 5: Counting Consolidation**</td>
</tr>
<tr>
<td>*also N2.1</td>
</tr>
<tr>
<td>**also N1.3, N2.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To Scaffold:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- On Safari!</td>
</tr>
<tr>
<td>- Buy 1 – Get 1</td>
</tr>
</tbody>
</table>

Big Idea: Numbers tell us how many and how much.

Applying the principles of counting
- Says the number name sequence backward from numbers to 10.
- 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).
| N2.4 Count backwards from 20 by 2’s and 5’s, using a variety of tools | Number Cluster 4: Skip-Counting  
- 15: Skip-Counting Backward  
- 16: Skip-Counting Consolidation*  
*also N2.2 | On Safari!  
To Scaffold:  
- A Class-full of Projects (optional counting backwards) | Big Idea: Numbers tell us how many and how much.  
Applying the principles of counting  
- Fluently skip-counts by factors of 1 (e.g., 2, 5, 10) and multiples of 10 from any given number. |
|---|---|---|---|
| N2.5 Use ordinal numbers to thirty-first in meaningful contexts | Number Cluster 1: Counting  
- 4: Ordinal Numbers  
*Link to other strands: Measurement Cluster 3: Time and Temperature  
20: The Calendar* | At the Corn Farm | Big idea: Numbers are related in many ways  
Comparing and ordering quantities (multitude or magnitude)  
- Uses ordinal number names (e.g., first, second, third).  
- Determines and describes the relative position of objects using ordinal numbers.  
- Uses ordinal numbers in context (e.g., days on a calendar: the 3rd of March). |
### Overall Expectation

**N3** Operational Sense: Solve problems involving the addition and subtraction of single-digit whole numbers, using a variety of strategies

<table>
<thead>
<tr>
<th>N3.1 Solve a variety of problems involving the addition and subtraction of whole numbers to 20, using concrete materials and drawings</th>
<th>Number Cluster 7: Operational Fluency</th>
<th>Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.</th>
</tr>
</thead>
<tbody>
<tr>
<td>29: Adding to 20*</td>
<td>That’s 10! (to 10)</td>
<td>Developing conceptual meaning of addition and subtraction</td>
</tr>
<tr>
<td>31: The Number Line</td>
<td>Hockey Time!</td>
<td>- Models add-to and take-from situations with quantities to 10.</td>
</tr>
<tr>
<td>33: Part-Part-Whole*</td>
<td>Cats and Kittens!</td>
<td>- Uses symbols and equations to represent addition and subtraction situations.</td>
</tr>
<tr>
<td>34: Solving Story Problems</td>
<td>Buy 1 – Get 1</td>
<td>- Models and symbolizes addition and subtraction problem types (i.e., join, separate, part-part-whole, and compare).</td>
</tr>
<tr>
<td>35: Operational Fluency Consolidation</td>
<td>Canada’s Oldest Sport</td>
<td></td>
</tr>
<tr>
<td>*also N3.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N3.2 Solve problems involving the addition and subtraction of single-digit whole numbers, using a variety of mental strategies</th>
<th>Number Cluster 7: Operational Fluency</th>
<th>Big Idea: Quantities and numbers can be added and subtracted to determine how many or how much.</th>
</tr>
</thead>
<tbody>
<tr>
<td>28: More or Less</td>
<td>That’s 10! (counting on, making ten)</td>
<td>Developing fluency of addition and subtraction</td>
</tr>
<tr>
<td>29: Adding to 20*</td>
<td>Hockey Time! (doubles, counting on, counting back, differences)</td>
<td>- Fluently adds and subtracts within 5</td>
</tr>
<tr>
<td>30: Subtracting to 20</td>
<td>Cats and Kittens! (counting, known facts, commutative property)</td>
<td>- Fluently adds and subtracts with quantities to 10.</td>
</tr>
<tr>
<td>32: Doubles</td>
<td>Buy 1 – Get 1 (doubles, near doubles, counting, known facts)</td>
<td>- Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3).</td>
</tr>
<tr>
<td>33: Part-Part-Whole*</td>
<td>On Safari! (one more, two more, doubling)</td>
<td>- Extends known sums and differences to solve other equations (e.g., using 5 + 5 to add 5 + 6).</td>
</tr>
<tr>
<td>*also N3.1</td>
<td>Canada’s Oldest Sport (counting on, counting back, doubles, benchmarks)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canada’s Oldest Sport (counting on, counting back, doubles, benchmarks)</td>
<td></td>
</tr>
</tbody>
</table>

**To Extend:**
- Marbles, Alleys, Mibs, and Guli! (doubles, making tens, counting on)

**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.
| **N3.3** Add and subtract money amounts to 10¢, using coin manipulatives and drawings | **Number Cluster 5: Composing and Decomposing**  
- 20: Money Amounts*  
*also N1.6 and N1.8 | **To Extend:**  
- Family Fun Day *(coins and bills)*  
- Back to Batoche  
- The Money Jar | **Big Idea:** Quantities and numbers can be added and subtracted to determine how many or how much.  
Developing conceptual meaning of addition and subtraction  
- Fluently adds and subtracts 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).  
Developing fluency of addition and subtraction computation  
- Fluently adds and subtracts with quantities to 10.  
- Fluently recalls complements to 10 (e.g., 6 + 4; 7 + 3). |

**Note:** The following activities are not specifically correlated to the Ontario curriculum expectations for Grade 1 but may be of interest to teachers in preparing a strong foundation for mathematics:  
**Activity 21:** Equal Groups  
**Activities 37 – 40:** Financial Literacy
# Mathology 1 Correlation (Patterning and Algebra) – Ontario*

<table>
<thead>
<tr>
<th>Curriculum Expectations</th>
<th>Mathology Grade 1 Classroom Activity Kit</th>
<th>Mathology Little Books</th>
<th>Pearson Canada K-3 Mathematics Learning Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Expectation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>P1 Patterns and Relationships: identify, describe, extend, and create repeating patterns</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| P1.1 Identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute | Patterning and Algebra Cluster 1: Investigating Repeating Patterns  
- 1: Repeating the Core\(^{(1)}\)  
- 5: Investigating Repeating Patterns Consolidation\(^{(1)}\) | Midnight and Snowfall  
To Scaffold:  
- A Lot of Noise  
- We Can Bead! | 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.  
- Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). |
| Patterning and Algebra Cluster 2: Creating Patterns  
- 6: Extending Patterns\(^{(2)}\)  
- 7: Translating Patterns\(^{(3)}\)  
- 9: Creating Patterns Consolidation\(^{(3)}\) |  
\(^{(1)}\)also P1.4, P1.6, G1.1  
\(^{(2)}\)also P1.2, P1.4, G1.1  
\(^{(3)}\)also P1.2, P1.4, P1.5, P1.6, G1.1 |

*codes given to curriculum expectations are for cross-referencing purposes only
| P1.2 Identify and extend, through investigation, numeric repeating patterns | Patternning and Algebra Cluster 1: Investigating Repeating Patterns  
• 2: Representing Patterns\(^\text{(1)}\)  
• 4: Finding Patterns\(^\text{(2)}\)  
Patternning and Algebra Cluster 2: Creating Patterns  
• 6: Extending Patterns\(^\text{(3)}\)  
• 7: Translating Patterns\(^\text{(4)}\)  
• 9: Creating Patterns Consolidation\(^\text{(4)}\)  
\(^\text{(1)}\)also P1.4, P1.6  
\(^\text{(2)}\)also P1.3  
\(^\text{(3)}\)also P1.1, P1.4, G1.1  
\(^\text{(4)}\)also P1.1, P1.4, P1.5, P1.6, G1.1 | No direct correlation. | **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.  
- Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). |
| P1.3 Describe numeric repeating patterns in a hundreds chart | Patternning and Algebra Cluster 1: Investigating Repeating Patterns  
• 4: Finding Patterns\(^\text{(1)}\)  
\(^\text{(1)}\)also P1.2 | No direct correlation. | **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.  
- Distinguishes between repeating and non-repeating sequences |
| P1.4 Identify a rule for a repeating pattern | Pattern and Algebra Cluster 1: Investigating Repeating Patterns  
- 1: Repeating the Core\(^{(1)}\)  
- 2: Representing Patterns\(^{(2)}\)  
- 5: Investigating Repeating Patterns Consolidation\(^{(1)}\)  
Pattern and Algebra Cluster 2: Creating Patterns  
- 6: Extending Patterns\(^{(3)}\)  
- 7: Translating Patterns\(^{(4)}\)  
- 9: Creating Patterns Consolidation\(^{(4)}\)  
\(^{(1)}\)also P1.1, P1.6, G1.1  
\(^{(2)}\)also P1.2, P1.6  
\(^{(3)}\)also P1.1, P1.2, G1.1  
\(^{(4)}\)also P1.1, P1.2, P1.5, P1.6, G1.1 | • Midnight and Snowfall  
Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.  
To Scaffold:  
• A Lot of Noise  
• We Can Bead!  
- Identifying, reproducing, extending, and creating patterns that repeat  
- Identifies the repeating unit (core) of a pattern.  
- Recognizes similarities and differences between patterns. |
| P1.5 Create a repeating pattern involving one attribute | Pattern and Algebra Cluster 2: Creating Patterns  
- 7: Translating Patterns\(^{(1)}\)  
- 9: Creating Patterns Consolidation\(^{(1)}\)  
\(^{(1)}\)also 1P1.1, P1.2, P1.4, P1.6, G1.1 | • Midnight and Snowfall  
Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.  
To Scaffold:  
• A Lot of Noise  
- Identifying, reproducing, extending, and creating patterns that repeat  
- Distinguishes between repeating and non-repeating sequences  
- Reproduces, creates, and extends repeating patterns based on copies of the repeating unit (core). |
| P1.6 Represent a given repeating pattern in a variety of ways |
|-----------------|-----------------|
| **Pattern and Algebra Cluster 1: Investigating Repeating Patterns** |
| • 1: Repeating the Core \(^{(1)}\) |
| • 2: Representing Patterns \(^{(2)}\) |
| • 5: Investigating Repeating Patterns Consolidation \(^{(1)}\) |
| **Pattern and Algebra Cluster 2: Creating Patterns** |
| • 7: Translating Patterns \(^{(3)}\) |
| • 9: Creating Patterns Consolidation \(^{(3)}\) |

\(^{(1)}\) also P1.1, P1.4, G1.1
\(^{(2)}\) also P1.2, P1.4
\(^{(3)}\) also P1.1, P1.2, P1.4, P1.5, G1.1

<table>
<thead>
<tr>
<th>Midnight and Snowfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Scaffold:</td>
</tr>
<tr>
<td>• A Lot of Noise</td>
</tr>
</tbody>
</table>

**Big Idea:** Regularity and repetition form patterns that can be generalized and predicted mathematically.

Identifying, reproducing, extending, and creating patterns that repeat
- Represents the same pattern in different ways (i.e., translating to different symbols, objects, sounds, actions).
<table>
<thead>
<tr>
<th>Overall Expectation</th>
<th>P2 Expressions and Equality: demonstrate an understanding of the concept of equality, using concrete materials and addition and subtraction to 10</th>
</tr>
</thead>
</table>
| P2.1 Create a set in which the number of objects is greater than, less than, or equal to the number of objects in a given set | **Patterning and Algebra Cluster 3: Equality and Inequality**  
- 10: Exploring Sets\(^{(1)}\)  
[1]also N1.1 |
| To Extend: | **Nutty and Wolfy**  
- 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. |

| P2.2 Demonstrate examples of equality, through investigation, using a “balance” model | **Patterning and Algebra Cluster 3: Equality and Inequality**  
- 11: Making Equal Sets\(^{(1)}\)  
[1]also N1.1 |
| To Extend: | **Nutty and Wolfy**  
- Kokum’s Bannock  
- Family Fun Day  
- Array’s Bakery  
- A Class-full of Projects |
| 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  
- Models and describes equality (balance; the same as) and inequality (imbalance; not the same as).  
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). |

| P2.3 Determine, through investigation using a “balance” model and whole numbers to 10, the number of identical objects that must be added or subtracted to establish equality | **Patterning and Algebra Cluster 3: Equality and Inequality**  
- 12: Using Symbols  
- 13: Equality and Inequality Consolidation [ |
| To Extend: | **Nutty and Wolfy**  
- 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  
- 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  
- Understands and uses the equal (\(=\)) and not equal (\(\neq\)) symbols when comparing expressions. |
Note 1: The following activities are not specifically correlated to the Ontario curriculum expectations for Grade 1 but may be of interest to teachers in preparing a strong foundation for mathematics:

Activity 3: Predicting Elements [PS, RP, C]
Activity 8: Errors and Missing Elements [PS, RP, CN, R, C]

Note 2: Selecting Tools and Computational Strategies (Calculators, Computers, Communications Technology) is fully supported through Mathology.ca, a flexible digital tool for teachers that facilitates activity search, lesson planning, student assessment, with just-in-time supports and targeted professional learning.
## Mathology 1 Correlation (Measurement) – Ontario*

### Overall Expectation

**M1** Attributes, Units, and Measurement Sense: estimate, measure, and describe length, area, mass, capacity, time, and temperature, using non-standard units of the same size.

### Measurement Cluster 2: Using Uniform Units

- 9: Using Multiple Units\(^{(1)}\)
- 11: Measuring Length\(^{(2)}\)
- 12: Iterating the Unit\(^{(1)}\)
- 13: Measuring Area\(^{(3)}\)
- 14: Measuring Capacity\(^{(4)}\)
- 15: Using Uniform Units Consolidation\(^{(5)}\)

\(^{(1)}\)also M1.2  
\(^{(2)}\)also M1.1, M2.4  
\(^{(3)}\)also M1.4  
\(^{(4)}\)also M1.5  
\(^{(5)}\)also M1.2, M1.4, M1.5, M2.1

### Big idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.

**To Scaffold:**
- The Amazing Seed
- Animal Measures

**To Extend:**
- The Best in Show
- Getting Ready for School
- The Discovery

### Understanding attributes that can be measured
- 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).

### 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 units must be the same for measurements to be meaningful (e.g., must use same sized cubes to measure a desk).
  - Understands that there should be no gaps or overlaps when measuring.

---

*codes given to curriculum expectations are for cross-referencing purposes only*
<table>
<thead>
<tr>
<th>M1.2 Estimate, measure, and record lengths, heights, and distances</th>
<th>Measurement Cluster 2: Using Uniform Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 9: Using Multiple Units&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>• 11: Measuring Length&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>• 12: Iterating the Unit&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>• 15: Using Uniform Units Consolidation&lt;sup&gt;3&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>[1]</sup> also M1.1  
<sup>[2]</sup> also M1.1, M2.4  
<sup>[3]</sup> also M1.1, M1.4, M1.5, M2.1

<table>
<thead>
<tr>
<th>M1.3 Construct, using a variety of strategies, tools for measuring lengths, heights, and distances in non-standard units</th>
<th>Measurement Cluster 2: Using Uniform Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 8: Exploring the Metre&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>[1]</sup> also M2.3, M2.4

<table>
<thead>
<tr>
<th>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.</th>
</tr>
</thead>
</table>
| Selecting and using non-standard units to estimate, measure, and make comparisons  
- Understands that units must be the same for measurements to be meaningful (e.g., must use same sized cubes to measure a desk).  
- Understands that there should be no gaps or overlaps when measuring.  
- Uses whole number measures to estimate, measure, and compare (e.g., this book is 8 cubes long and my pencil is 5 cubes long).  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  • using an intermediary object  
  • using multiple copies of a unit  
  • iterating a single unit  
- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass.  
- Uses non-standard units as referents to estimate length (e.g., paper clips), area (e.g., square tiles), mass (e.g., cubes), and capacity (e.g., cups). |

To Scaffold:  
• The Best in Show

To Extend:  
• Getting Ready for School  
• The Discovery

<table>
<thead>
<tr>
<th>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.</th>
</tr>
</thead>
</table>
| Selecting and using non-standard units to estimate, measure, and make comparisons  
- Understands that units must be the same for measurements to be meaningful (e.g., must use same sized cubes to measure a desk).  
- Understands that there should be no gaps or overlaps when measuring.  
- Uses whole number measures to estimate, measure, and compare (e.g., this book is 8 cubes long and my pencil is 5 cubes long).  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  • using an intermediary object  
  • using multiple copies of a unit  
  • iterating a single unit  
- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass.  
- Uses non-standard units as referents to estimate length (e.g., paper clips), area (e.g., square tiles), mass (e.g., cubes), and capacity (e.g., cups). |

To Scaffold:  
• The Best in Show

To Extend:  
• Getting Ready for School  
• The Discovery

<table>
<thead>
<tr>
<th>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.</th>
</tr>
</thead>
</table>
| Selecting and using non-standard units to estimate, measure, and make comparisons  
- Understands that units must be the same for measurements to be meaningful (e.g., must use same sized cubes to measure a desk).  
- Understands that there should be no gaps or overlaps when measuring.  
- Uses whole number measures to estimate, measure, and compare (e.g., this book is 8 cubes long and my pencil is 5 cubes long).  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  • using an intermediary object  
  • using multiple copies of a unit  
  • iterating a single unit  
- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass.  
- Uses non-standard units as referents to estimate length (e.g., paper clips), area (e.g., square tiles), mass (e.g., cubes), and capacity (e.g., cups). |

To Scaffold:  
• The Best in Show

To Extend:  
• Getting Ready for School  
• The Discovery

<table>
<thead>
<tr>
<th>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.</th>
</tr>
</thead>
</table>
| Selecting and using non-standard units to estimate, measure, and make comparisons  
- Understands that units must be the same for measurements to be meaningful (e.g., must use same sized cubes to measure a desk).  
- Understands that there should be no gaps or overlaps when measuring.  
- Uses whole number measures to estimate, measure, and compare (e.g., this book is 8 cubes long and my pencil is 5 cubes long).  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  • using an intermediary object  
  • using multiple copies of a unit  
  • iterating a single unit  
- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass.  
- Uses non-standard units as referents to estimate length (e.g., paper clips), area (e.g., square tiles), mass (e.g., cubes), and capacity (e.g., cups). |

To Scaffold:  
• The Best in Show

To Extend:  
• Getting Ready for School  
• The Discovery
| M1.4 Estimate, measure, and describe area, through investigation using non-standard units | **Measurement Cluster 2: Using Uniform Units**  
- 13: Measuring Area\(^{[1]}\)  
- 15: Using Uniform Units Consolidation\(^{[2]}\)  
\(^{[1]}\)also M1.1  
\(^{[2]}\)also M1.1, M1.2, M1.5, M2.1 | **To Extend:**  
- The Discovery | **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  
- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass.  
- Uses non-standard units as referents to estimate length (e.g., paper clips), area (e.g., square tiles), mass (e.g., cubes), and capacity (e.g., cups). |
| M1.5 Estimate, measure, and describe the capacity and/or mass of an object, through investigation using non-standard units | **Measurement Cluster 2: Using Uniform Units**  
- 14: Measuring Capacity\(^{[1]}\)  
- 15: Using Uniform Units Consolidation\(^{[2]}\)  
\(^{[1]}\)also M1.1  
\(^{[2]}\)also M1.1, M1.2, M1.4, M2.1 | The Amazing Seed | **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  
- Selects and uses appropriate non-standard units to estimate, measure, and compare length, area, capacity, and mass.  
- Uses non-standard units as referents to estimate length (e.g., paper clips), area (e.g., square tiles), mass (e.g., cubes), and capacity (e.g., cups). |
| M1.6 Estimate, measure, and describe the passage of time, through investigation using non-standard units | **Measurement Cluster 3: Time and Temperature**  
- 17: Passage of Time | No direct correlation. | **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). |
<table>
<thead>
<tr>
<th>M1.7 Read demonstration digital and analogue clocks, and use them to identify benchmark times and to tell and write time to the hour and half-hour in everyday settings</th>
</tr>
</thead>
</table>
| **Measurement Cluster 3: Time and Temperature**  
  - 16: Ordering Events  
  - 18: Telling Time  
  - 21: Time and Temperature Consolidation*  
  *also M18, M1.9 |
| No direct correlation. |
| **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). |

<table>
<thead>
<tr>
<th>M1.8 Name the months of the year in order, and read the date on a calendar</th>
</tr>
</thead>
</table>
| **Measurement Cluster 3: Time and Temperature**  
  - 20: The Calendar*  
  - 21: Time and Temperature Consolidation**  
  *also N2.5  
  *also M1.7, M1.9 |
| No direct correlation. |
| **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). |

<table>
<thead>
<tr>
<th>M1.9 Relate temperature to experiences of the seasons</th>
</tr>
</thead>
</table>
| **Measurement Cluster 3: Time and Temperature**  
  - 19: Relating to Seasons  
  - 21: Time and Temperature Consolidation*  
  *also M1.7, M1.8 |
| No direct correlation. |
| **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). |
<table>
<thead>
<tr>
<th>Overall Expectation</th>
<th>M2 Measurement Relationships: compare, describe, and order objects, using attributes measured in non-standard units</th>
</tr>
</thead>
</table>
| M2.1 Compare two or three objects using measurable attributes, and describe the objects using relative terms | Measurement Cluster 1: Comparing Objects  
- 1: Comparing Length  
- 2: Comparing Mass  
- 3: Comparing Capacity  
- 4: Making Comparisons  
- 5: Comparing Area  
- 6: Comparing Objects Consolidation  

Measurement Cluster 2: Using Uniform Units  
- 7: Matching Lengths\(^{(1)}\)  
- 15: Using Uniform Units Consolidation\(^{(2)}\)  

\(^{(1)}\) also M2.2  
\(^{(2)}\) also M1.1, M1.2, M1.4, M1.5 |
| 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. |
| 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).  
- Uses relative attributes to compare and order (e.g., longer/longest, taller/tallest, shorter/shortest). |

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  
- Uses relative language to describe measures (e.g., close/far, tall, taller, tallest). |

Big idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.  
Directly and indirectly comparing and ordering objects with the same measurable attribute  
- Uses relative attributes to compare and order (e.g., longer/longest, taller/tallest, shorter/shortest). |

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  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  - using multiple copies of a unit  
  - iterating a single unit |

M2.2 Compare and order objects by their linear measurements, using the same non-standard unit | Measurement Cluster 2: Using Uniform Units  
- 7: Matching Lengths\(^{(1)}\)  

\(^{(1)}\) also M2.1 |
| The Amazing Seed  
- Animal Measures  

To Scaffold:  
- 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. |
| Directly and indirectly comparing and ordering objects with the same measurable attribute  
- Uses relative attributes to compare and order (e.g., longer/longest, taller/tallest, shorter/shortest). |

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  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  - using multiple copies of a unit  
  - iterating a single unit |
| M2.3 Use the metre as a benchmark for measuring length, and compare the metre with non-standard units | **Measurement Cluster 2: Using Uniform Units**  
- 8: Exploring the Metre\(^1\)  
- 10: A Benchmark of One Metre  
\(^1\)also M1.3, M2.4 | No direct correlation. | **Big idea:** Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.  
- 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).  
- 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).  
- 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  
  - Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
    - using an intermediary object  
- Understanding relationships among measurement units  
  - Compares different sized units and the effects on measuring objects (e.g., small cubes vs. large cubes to measure length).  
  - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). |
| --- | --- | --- | --- |
| **M2.4 Describe, through investigation using concrete materials, the relationship between the size of a unit and the number of units needed to measure length** | **Measurement Cluster 2: Using Uniform Units**  
- 8: Exploring the Metre\(^1\)  
- 11: Measuring Length\(^2\)  
\(^1\)also M1.3, M2.3  
\(^2\)also M1.1, M1.2 | • The Amazing Seed  
• Animal Measures  
**To Extend:**  
• Getting Ready for School  
• The Discovery | **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  
- Demonstrates ways to estimate, measure, compare, and order objects by length, area, capacity, and mass with non-standard units by  
  - using an intermediary object  
- Understanding relationships among measurement units  
  - Compares different sized units and the effects on measuring objects (e.g., small cubes vs. large cubes to measure length).  
  - Understands the inverse relationship between the size of the unit and the number of units (length, area, capacity, and mass). |

**Note:** Selecting Tools and Computational Strategies (Calculators, Computers, Communications Technology) is fully supported through Mathology.ca, a flexible digital tool for teachers that facilitates activity search, lesson planning, student assessment, with just-in-time supports and targeted professional learning.
Mathology 1 Correlation (Geometry and Spatial Sense) – Ontario*

<table>
<thead>
<tr>
<th>Curriculum Expectations</th>
<th>Mathology Grade 1 Classroom Activity Kit</th>
<th>Mathology Little Books</th>
<th>Pearson Canada K-3 Mathematics Learning Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Expectation</strong></td>
<td><strong>G1 Geometry Properties:</strong> identify common two-dimensional shapes and three-dimensional figures and sort and classify them by their attributes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **G1.1** Identify and describe common two-dimensional shapes and sort and classify them by their attributes, using concrete materials and pictorial representations | **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 | **Big idea:** 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes. |
| Link to other strands: | **Patterning and Algebra Cluster 1:** Investigating Repeating Patterns  
- 1: Repeating the Core(1)  
- 5: Investigating Repeating Patterns Consolidation(5) | Investigating geometric properties and properties of 2-D shapes and 3-D solids  
- Explores and makes distinctions among different geometric attributes of 2-D shapes and 3-D solids (e.g., sides, edges, corners, surfaces, open/closed).  
- Recognizes, matches, and names familiar 2-D shapes (e.g., circle, triangle, square, rectangle) and 3-D solids (e.g., cube, cone).  
- Compares 2-D shapes and 3-D solids to find the similarities and differences.  
- Compares geometric attributes of 2-D shapes and 3-D solids (e.g., number of sides/edges, faces, corners). |
| **Patterning and Algebra Cluster 2:** Creating Patterns  
- 6: Extending Patterns(3)  
- 7: Translating Patterns(4)  
- 9: Creating Patterns Consolidation(4) | **To Scaffold:**  
- What Was Here?  
- The Tailor Shop  
- Memory Book  
- Zoom In, Zoom Out | **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., 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).  
- Identifies the sorting rule used to sort sets. |

*codes given to curriculum expectations are for cross-referencing purposes only
| G1.2 Trace and identify the two-dimensional faces of three-dimensional figures, using concrete models | Geometry Cluster 3: 3-D Solids  
- 8: Sorting 3-D Solids\(^{(1)}\)  
- 9: Identify the Sorting Rule\(^{(1)}\)  
- 10: 3-D Solids Consolidation\(^{(1)}\)  

**Geometry Cluster 3: Geometric Relationships**  
- 11: Faces of Solids\(^{(2)}\)  
- 15: Geometric Relationships Consolidation\(^{(3)}\)  

\(^{(1)}\)also G1.3  
\(^{(2)}\)also G1.4, G2.3  
\(^{(3)}\)also G2.2, G2.3, G2.4 | What Was Here?  
Memory Book  
To Scaffold:  
The Castle Wall  
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.  
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.  

---

| G1.3 Identify and describe common three-dimensional figures and sort and classify them by their attributes, using concrete materials and pictorial representations | Geometry Cluster 2: 3-D Solids  
- 7: Exploring 3-D Solids  
- 8: Sorting 3-D Solids\(^{(1)}\)  
- 9: Identify the Sorting Rule\(^{(1)}\)  
- 10: 3-D Solids Consolidation\(^{(1)}\)  

\(^{(1)}\)also G1.2 | What Was Here?  
Memory Book  
To Scaffold:  
Zoom In, Zoom Out  
The Castle Wall  
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  
- Explores and makes distinctions among different geometric attributes of 2-D shapes and 3-D solids (e.g., sides, edges, corners, surfaces, open/closed).  
- Recognizes, matches, and names familiar 2-D shapes (e.g., circle, triangle, square, rectangle) and 3-D solids (e.g., cube, cone).  
- 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).  

---

|  | 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., 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).  
- Identifies the sorting rule used to sort sets. |
| G1.4 Describe similarities and differences between an everyday object and a three-dimensional figure | Geometry Cluster 3: Geometric Relationships | • What Was Here?  
• Memory Book  
**To Extend:**  
• I Spy Awesome Buildings  
• Sharing Our Stories | 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. |
| --- | --- | --- | --- |
| G1.5 Locate shapes in the environment that have symmetry, and describe the symmetry | Geometry Cluster 4: Symmetry | • The Tailor Shop  
**To Extend:**  
• Sharing Our Stories | 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 2-D shapes and 3-D solids that have symmetry (limited to line or plane symmetry) (e.g., slicing an apple through its core). |
<table>
<thead>
<tr>
<th>Overall Expectation</th>
<th>G2 Geometric Relationships: compose and decompose common two-dimensional shapes and three-dimensional figures</th>
</tr>
</thead>
</table>
| **G2.1** Compose patterns, pictures, and designs, using common two-dimensional shapes | **Geometry Cluster 3: Geometric Relationships**  
- 12: Making Designs | **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  
- 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. | **The Tailor Shop**  
**Memory Book**  
**To Extend:**  
- **Sharing Our Stories** |
| **G2.2** Identify and describe shapes within other shapes | **Geometry Cluster 3: Geometric Relationships**  
- 13: Covering Outlines\(^{(1)}\)  
- 14: Identifying Shapes  
- 15: Geometric Relationships Consolidation\(^{(2)}\)  
\(^{(1)}\)also G2.4  
\(^{(2)}\)also G1.2, G2.3, G2.4 | **The Tailor Shop**  
**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  
- Constructs composite pictures or structures with 2-D shapes and 3-D solids.  
- Decomposes 2-D shapes and 3-D solids into other known 2-D shapes and 3-D solids. |
| **G2.3** Build three-dimensional structures using concrete materials, and describe the two-dimensional shapes the structures contain | **Geometry Cluster 3: Geometric Relationships**  
- 11: Faces of Solids\(^{(1)}\)  
- 15: Geometric Relationships Consolidation\(^{(2)}\)  
\(^{(1)}\)also G1.2, G1.4  
\(^{(2)}\)also G1.2, G2.2, G2.4 | **To Scaffold:**  
- **The Castle Wall** | **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. |
| **G2.4** Cover outline puzzles with two-dimensional shapes | **Geometry Cluster 3: Geometric Relationships**  
- 13: Covering Outlines\(^{(1)}\)  
- 15: Geometric Relationships Consolidation\(^{(2)}\)  
\(^{(1)}\)also G2.2  
\(^{(2)}\)also G1.2, G2.2, G2.3 | **The Tailor Shop** | **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  
- Constructs composite pictures or structures with 2-D shapes and 3-D solids.  
- Completes a picture outline with shapes in more than one way. |
### Overall Expectation
**G3 Location and Movement: describe the relative locations of objects using positional language**

<table>
<thead>
<tr>
<th><strong>G3.1 Describe the relative locations of objects or people using positional language</strong></th>
<th><strong>Geometry Cluster 5: Location and Movement</strong></th>
<th><strong>Big idea: Objects can be located in space and viewed from multiple perspectives.</strong></th>
</tr>
</thead>
</table>
| *(1)* also G3.2 | 19: Perspective Taking  
20: Mapping*(1)*  
21: Location and Movement Consolidation*(1)* | 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).  
- Uses relative positions to describe the location and order of objects |
| **To Scaffold:** | Memory Book | **To Extend:** |
|  
Zoom In, Zoom Out  
The Castle Wall  
The New Nest | **G3.2 Describe the relative locations of objects on concrete maps created in the classroom** | **Big idea: Objects can be located in space and viewed from multiple perspectives.** |
| *(1)* also G3.1 | 20: Mapping*(1)*  
21: Location and Movement Consolidation*(1)* | Locating and mapping objects in space  
- Locates objects in environment (e.g., playground) by interpreting a map. |
| **To Scaffold:** | Memory Book | **To Extend:** |
|  
| | **G3.3 Create symmetrical designs and pictures, using concrete materials, and describe the relative locations of the parts** | **Big idea: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.** |
| *(1)* also G3.1 | 17: Creating Symmetrical Designs  
18: Symmetry Consolidation | Exploring symmetry to analyze 2-D shapes and 3-D solids  
- Physically explores symmetry of images by folding, cutting, and matching parts.  
- Constructs and completes 2-D/3-D symmetrical designs. |
| **To Extend:** | The Tailor Shop  
Sharing Our Stories |  
**Note:** Selecting Tools and Computational Strategies (Calculators, Computers, Communications Technology) is fully supported through Mathology.ca, a flexible digital tool for teachers that facilitates activity search, lesson planning, student assessment, with just-in-time supports and targeted professional learning.
## Mathology 1 Correlation (Data Management and Probability) – Ontario*

<table>
<thead>
<tr>
<th>Curriculum Expectations</th>
<th>Mathology Grade 1 Classroom Activity Kit</th>
<th>Mathology Little Books</th>
<th>Pearson Canada K-3 Mathematics Learning Progression</th>
</tr>
</thead>
</table>
| **Overall Expectation** | **D1 Collection and Organization of Data: collect and organize categorical primary data and display the data using concrete graphs and pictographs, without regard to the order of labels on the horizontal axis** | **Data Management and Probability Cluster 1: Data Management**<br>• 2: Making Concrete Graphs\(^{(1)}\)<br>• 4: Data Management Consolidation\(^{(1)}\)  
\(^{(1)}\)also D1.2, D2.1, D2.2 | **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., 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).
| **D1.1 Demonstrate an ability to organize objects into categories by sorting and classifying objects using one attribute and by describing informal sorting experiences** | **To Scaffold:**
• Graph It!<br>• Hedge and Hog | \(^{(2)}\)also D1.2, D2.1, D2.2 | **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.**
- Collecting data and organizing it into categories
  - Generates data by counting or measuring (e.g., linking cube tower: number of cubes or height).
  - Limited to whole units
- Creating graphical displays of collected data
  - Creates displays by arranging concrete data or with simple picture graphs (using actual objects or images).
  - Creates displays using objects or simple pictographs (may use symbol for data). |
| **D1.2 Collect and organize primary data that is categorical, and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs (with titles and labels), and a variety of recording methods** | **To Scaffold:**
• Graph It!<br>• Hedge and Hog | **To Extend:**
• Big Buddy Days<br>• Marsh Watch | |

*codes given to curriculum expectations are for cross-referencing purposes only
<table>
<thead>
<tr>
<th>Overall Expectation</th>
<th>D2 Data Relationships: read and describe primary data presented in concrete graphs and pictographs</th>
</tr>
</thead>
</table>
| **D2.1 Read primary data presented in concrete graphs and pictographs, and describe the data using comparative language** | **Data Management and Probability Cluster 1: Data Management**  
- 1: Interpreting Graphs\(^{(1)}\)  
- 2: Making Concrete Graphs\(^{(2)}\)  
- 3: Making Pictographs\(^{(3)}\)  
- 4: Data Management Consolidation\(^{(2)}\)  

\(^{(1)}\)also D2.2  
\(^{(2)}\)also D1.1, D1.2, D2.2  
\(^{(3)}\)also D1.2, D2.2 |
| **To Scaffold:** | **Graph It!**  
**To Extend:**  
- Hedge and Hog  
- Big Buddy Days  
- Marsh Watch |
| **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. |
| **D2.2 Pose and answer questions about collected data** | **Data Management and Probability Cluster 1: Data Management**  
- 1: Interpreting Graphs\(^{(1)}\)  
- 2: Making Concrete Graphs\(^{(2)}\)  
- 3: Making Pictographs\(^{(3)}\)  
- 4: Data Management Consolidation\(^{(2)}\)  

\(^{(1)}\)also D2.1  
\(^{(2)}\)also D1.1, D1.2, D2.  
\(^{(3)}\)also D1.2, D2.1 |
| **To Scaffold:** | **Graph It!**  
**To Extend:**  
- Big Buddy Days  
- Marsh Watch |
| **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 by counting collections (e.g., How many of us come to school by bus, by car, walking?) and questions that can be addressed through observation (e.g., How many people do/do not use the crosswalk?).  
Drawing conclusions by making inferences and justifying decisions based on data collected - Uses data collected and displayed to answer initial question directly. - Poses and answers questions about data collected and displayed. |
<table>
<thead>
<tr>
<th>Overall Expectation</th>
<th>D3 Probability: describe the likelihood that everyday events will happen</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3.1 Describe the likelihood that everyday events will occur, using mathematical language</td>
<td></td>
</tr>
<tr>
<td>Data Management and Probability Cluster 2: Probability and Chance</td>
<td></td>
</tr>
<tr>
<td>• 5: Likelihood of Events</td>
<td></td>
</tr>
<tr>
<td>• 6: Probability and Chance Consolidation</td>
<td></td>
</tr>
<tr>
<td>No direct correlation.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

Using the language of chance to describe and predict events
- Describes the likelihood of an event (e.g., impossible, unlikely, certain).
- Makes predictions based on the question, context, and data presented.
- Lists the possible outcomes of independent events (e.g., tossing coin, rolling number cube, spinning a spinner).
- Compares the likelihood of two events (e.g., more likely, less likely, equally likely).

**Note:** Selecting Tools and Computational Strategies (Calculators, Computers, Communications Technology) is fully supported through Mathology.ca, a flexible digital tool for teachers that facilitates activity search, lesson planning, student assessment, with just-in-time supports and targeted professional learning.