**Mathology Grade 1 Correlation (Number) – Alberta**

\*Materials referenced from other grades can be found in related Mathology Activity Kits and in mathology.ca\*

**Organizing Idea:**

Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

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| **Guiding Question:** How can quantity be communicated?  **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| A numeral is a symbol or group of symbols used to represent a number.  The absence of quantity is represented by 0. | Quantity is expressed in words and numerals based on patterns.  Quantity in the world is represented in multiple ways. | Represent quantities using words, numerals, objects, or pictures. | **Number Cluster 1: Counting**  1: Counting to 20  2: Counting to 50  **Number Cluster 6: Early Place Value**  24: Tens and Ones *(Currently to 50; Provide base ten blocks to 100.)*  25: Building and Naming Numbers  26: Different Representations *(Currently to 50; Include numbers 50-100 on Line Master 69.)*  27: Consolidation *(Currently to 50; Provide numbers to 100.)* | A Family Cookout *(Addresses numbers to 50.)*  *Link to other grades:*  *Grade 2*  *Ways to Count (Addresses numbers to 100.)* |
| Identify a quantity of 0 in familiar situations. | **Number Cluster 1: Counting**  3: Counting On and Back *(Discuss where 0 might be along the bunny’s path.)* |  |
| Counting can begin at any number.  Counting more than one object at a time is called skip counting. | Each number counted includes all previous numbers (counting principle: hierarchical inclusion).  A quantity can be determined by counting more than one object in a set at a time. | Count within 100, forward by 1s, starting at any number, according to the counting principles. | **Number Cluster 1: Counting**  1: Counting to 20  2: Counting to 50  3: Counting On and Back *(Currently to 50; Remove numbers from Line Master 8C to count forward to 100.)*  5: Consolidation *(Currently to 50; Include numbers to 100.)*  *Material from other grades:*  ***Grade 2 Number Cluster 1: Counting***  *1: Bridging Tens (Currently up to 100)*  *Optional:*  **Number Cluster 8: Financial Literacy**  36: Value of Coins *(Use Student Card 36B to count by 1s.)*  37: Counting Collections *(Use Student Card 37A to skip count by 1s.)* |  |
| Count backward from 20 to 0 by 1s. | **Number Cluster 1: Counting**  3: Counting On and Back *(Currently back from 50; Remove Line Master 9C.)* |  |
| Skip count to 100, forward by 5s and 10s, starting at 0. | **Number Cluster 4: Skip-Counting**  13: Skip-Counting Forward *(Currently to 50; Have students use Hundred chart to skip-count to 100.)*  16: Consolidation *(Currently to 50; Provide additional linking cubes to 100.)*  *Optional:*  **Number Cluster 8: Financial Literacy**  36: Value of Coins *(Use Student Card 36A to skip count by 5s and 10s.)*  37: Counting Collections *(Use Student Card 37B to skip count by 5s and 10s.)* | How Many is too Many?  *Link to other grades:*  *Grade 2*  *Ways to Count*  *Family Fun Day* |
| Skip count to 20, forward by 2s, starting at 0. | **Number Cluster 4: Skip-Counting**  13: Skip-Counting Forward *(Use side B.)*  16: Consolidation *(Currently to 50; Only provide 20 cubes when skip-counting by 2s.)*  *Optional:*  **Number Cluster 8: Financial Literacy**  36: Value of Coins *(Use Student Card 36B to skip count by 2s.)*  37: Counting Collections *(Use Student Card 37A to skip count by 2s.)* | On Safari! |
| Sharing involves partitioning a quantity into a certain number of groups.  Grouping involves partitioning a quantity into groups of a certain size. | Quantity can be partitioned by sharing or grouping. | Partition a set of objects by sharing and grouping. | **Number Cluster 5: Composing and Decomposing**  21: Equal Groups |  |
| Demonstrate conservation of number when sharing or grouping. | **Number Cluster 5: Composing and Decomposing**  21: Equal Groups |  |
| Familiar arrangements of small quantities facilitate subitizing. | A quantity can be perceived as the composition of smaller quantities. | Recognize quantities to 10. | **Number Cluster 2: Spatial Reasoning**  6: Subitizing to 10  8: Consolidation *(Use side B.)*  **Number Cluster 7: Operational Fluency**  *New Lesson to Come: Complements of 10* |  |
| Comparisons of quantity can be described by using word such as   * equal * not equal * less * more   Equality can be modelled using a balance.  The equal sign, =, is used to show equality between two quantities.  The unequal sign, ≠, is used to show that two quantities are not equal. | Two quantities are equal when there is the same number of objects in both sets.  Equality is a balance  between two  quantities. | Investigate equal and unequal quantities, including using a balance model. | **Patterning Cluster 3: Equality and Inequality**  10: Exploring Sets  11: Making Equal Sets  12: Using Symbols  13: Consolidation | Nutty and Wolfy  *Link to other grades:*  *Grade 2*  *Kokum’s Bannock* |
| Identify numbers that are one more, two more, one less, and two less than a given number. | **Number Cluster 7: Operational Fluency**  31: More or Less |  |
| Represent a quantity relative to another, including symbolically. | **Number Cluster 3: Comparing and Ordering**  *New Lesson to Come: Comparing Sets Concretely*  10: Comparing Sets Pictorially *(Currently to 20)*  11: Comparing Numbers to 50 *(Provide additional craft sticks to 100.)*  12: Consolidation *(Currently to 50; Provide additional craft sticks to 100.)*  **Number Cluster 6: Early Place Value**  28: More or Less *(Currently to 40)* | Paddling the River *(Addresses numbers to 20.)*  Cats and Kittens *(Addresses numbers to 20.)*  Nutty and Wolfy *(Addresses numbers to 20.)* |

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| **Guiding Question:** How can addition and subtraction provide perspectives of number?  **Learning Outcome:** Students examine addition and subtraction within 20. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| Quantities can be composed or decomposed to model a change in quantity.  Addition can be applied in various contexts, including   * combining parts to find the whole * increasing an existing quantity   Subtraction can be applied in various contexts, including   * comparing two quantities * taking away one quantity from another * finding a part of a whole   Addition and subtraction can be modelled using a balance. | Addition and subtraction are processes that describe the composition and decomposition of quantity. | Visualize quantities between 10 and 20 as compositions of 10 and another quantity. | **Number Cluster 2: Spatial Reasoning**  6: Subitizing to 10  8: Consolidation *(Use side B.)* | That’s 10! *(Addresses numbers to 10.)*  Paddling the River  Hockey Time! |
| Model addition and subtraction within 20 in various ways, including with a balance. | **Number Cluster 7: Operational Fluency**  29: Adding to 20  30: Subtracting 20  31: The Number Line  33: Part-Part-Whole |  |
| Relate addition and subtraction to various contexts involving composition or decomposition of quantity. | **Number Cluster 5: Composing and Decomposing**  17: Decomposing 10  18: Numbers to 10  19: Numbers to 20 |  |
| Strategies are meaningful steps taken to solve problems.  Addition and subtraction strategies include   * counting on * counting back * decomposition * compensation * making tens   Sums and differences can be expressed symbolically using the addition sign, +, the subtraction sign, -, and the equal sign, =.  The order in which two quantities are added does not affect the sum (commutative property).  The order in which two quantities are subtracted affects the difference.  Addition of 0 to any number, or subtraction of 0 from any number, results in the same number (zero property).  A missing quantity in a sum or difference can be represented in different ways, including   * a + b =  * a +  = c *  + b = c * e - f =  * e -  = g *  - f = g | Addition and subtraction are opposite (inverse) mathematical operations. | Investigate addition and subtraction strategies. | **Number Cluster 5: Composing and Decomposing**  19: Numbers to 20  **Number Cluster 7: Operational Fluency**  32: Doubles | That’s 10!  Hockey Time!  Canada’s Oldest Sport |
| Add and subtract within 20. | **Number Cluster 5: Composing and Decomposing**  19: Numbers to 20  **Number Cluster 7: Operational Fluency**  29: Adding to 20  30: Subtracting 20  31: The Number Line  33: Part-Part-Whole  35: Consolidation  *Link to other grades:*  ***Grade 2 Number Cluster 7: Operational Fluency***  *34: Fluency with 20* | Buy 1—Get 1  Hockey Time!  Cats and Kittens!  Canada’s Oldest Sport |
| Check differences and sums using inverse operations. | **Number Cluster 7: Operational Fluency**  29: Adding to 20  30: Subtracting 20  31: The Number Line  32: Doubles  33: Part-Part-Whole  34: Solving Story Problems  35: Consolidation | Buy 1—Get 1  Canada’s Oldest Sport  Cats and Kittens!  Hockey Time! |
| Determine a missing quantity in a sum or difference, within 20, in a variety of ways. | **Number Cluster 7: Operational Fluency**  33: Part-Part-Whole  34: Solving Story Problems  35: Consolidation |  |
| Express addition and subtraction symbolically. | **Number Cluster 7: Operational Fluency**  31: The Number Line  33: Part-Part-Whole  34: Solving Story Problems  35: Consolidation |  |
| Solve problems using addition and subtraction. | **Number Cluster 7: Operational Fluency**  34: Solving Story Problems  35: Consolidation |  |
| Addition and subtraction number facts represent part-part-whole relationships.  Fact families are groups of related addition and subtraction number facts. | Addition number facts have related subtraction number facts. | Identify patterns in addition and subtraction, including patterns in addition tables. | **Number Cluster 7: Operational Fluency**  *New Lesson to Come: Exploring Properties* |  |
| Recognize families of related addition and subtraction number facts. | **Number Cluster 7: Operational Fluency**  33: Part-Part-Whole *(Discuss how fact families can help find the unknown part or whole.)*  34: Solving Story Problems |  |
| Recall addition number facts, with addends to 10, and related subtraction number facts. | **Number Cluster 7: Operational Fluency**  *New Lesson to Come: Complements of 10* | That’s 10! |

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| **Guiding Question:** In what ways can parts and wholes be related?  **Learning Outcome:** Students examine one-half as a part-whole relationship. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| One-half can be one of two equal groups or  one of two equal  pieces. | In a quantity partitioned into two equal groups, each group represents one-half of the whole quantity.  In a shape or object partitioned into two identical pieces, each piece represents one-half of the whole. | Identify one-half in familiar situations. | *New Lesson to Come: Exploring Halves* | *Link to other grades:*  *Grade 2*  *The Best Birthday* |
| Partition an even set of objects into two equal groups, limited to sets  of 10 or less. | *New Lesson to Come: Exploring Halves* | *Link to other grades:*  *Grade 2*  *The Best Birthday* |
| Partition a shape or object into two equal pieces. | *New Lesson to Come: Exploring Halves* |  |
| Describe one of two equal groups or pieces as one-half. | *New Lesson to Come: Exploring Halves* |  |
| Verify that the two halves of one whole group, shape, or object are the same size. | *New Lesson to Come: Exploring Halves* |  |

**Mathology Grade 1 Correlation (Geometry) – Alberta**

**Organizing Idea:**

Shapes are defined and related by geometric attributes.

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| **Guiding Question:** In what ways can shape be characterized?  **Learning Outcome:** Students interpret shape in two and three dimensions. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| Familiar two-dimensional shapes include   * squares * circles * rectangles * triangles   Familiar three-dimensional shapes include   * cubes * prisms * cylinders * spheres * pyramids * cones   A composite shape is composed of two or more shapes.  A line of symmetry indicates the division between the matching halves of a symmetrical shape. | A shape can be modelled in various sizes and orientations.  A shape is symmetrical if it can be decomposed into matching halves. | Identify familiar shapes in various sizes and orientations. | **Geometry Cluster 1: 2-D Shapes**  2: Identifying Triangles  3: Identifying Rectangles  4: Visualizing Shapes  **Geometry Cluster 2: 3-D Solids**  7: 3-D Solids  11: Face of Solids  14: Identifying Shapes | Memory Book  What Was Here?  *Link to other grades:*  *Kindergarten*  *The Castle Wall* |
| Model two-dimensional shapes. | *Link to other grades:*  ***Grade 2 Geometry Cluster 1: 2-D Shapes***  *3: Constructing 2-D Shapes*  *(Currently includes triangles; Have students also construct squares, rectangles, and circles.)* |  |
| Sort shapes according to one attribute and describe the sorting rule. | **Geometry Cluster 1: 2-D Shapes**  1: Sorting Shapes  5: Sorting Rules  6: Consolidation  **Geometry Cluster 2: 3-D Solids**  8: Sorting 3-D Solids  9: Identifying the Sorting Rule  10: Consolidation | What Was Here? |
| Compose and decompose two- or three-dimensional composite shapes. | **Geometry Cluster 3: Geometric Relationships**  *New Lesson to Come: Constructing Solids and Skeletons*  12: Making Designs  13: Covering Outlines  15: Consolidation  *Link to other grades:*  ***Grade 2 Geometry Cluster 1: 2-D Shapes***  *3: Constructing 2-D Shapes*  ***Grade 2 Geometry Cluster 3: Geometric Relationships***  *11: Making Shapes*  *12: Building with Solids* | The Tailor Shop |
| Identify familiar shapes within two- or three-dimensional composite shapes. | **Geometry Cluster 3: Geometric Relationships**  *New Lesson to Come: Constructing Solids and Skeletons*  14: Identifying Shapes  *Link to other grades:*  ***Grade 2 Geometry Cluster 3: Geometric Relationships***  *11: Making Shapes*  *12: Building with Solids* | The Tailor Shop  What Was Here?  Memory Book  *Link to other grades:*  *Kindergarten*  *The Castle Wall*  *Zoom In, Zoom Out* |
| Investigate symmetry of two-dimensional shapes by folding and matching. | **Geometry Cluster 4: Symmetry**  16: Finding Lines of Symmetry  17: Creating Symmetrical Designs  18: Consolidation  *Link to other grades:*  ***Grade 2 Geometry Cluster 1: 2-D Shapes***  *4: Symmetry in 2-D Shapes* | The Tailor Shop |

**Mathology Grade 1 Correlation (Measurement) – Alberta**

**Organizing Idea:**

Attributes such as length, area, volume, and angle are quantified by measurement.

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| **Guiding Question:** In what ways can length provide perspectives of size?  **Learning Outcome:** Students relate length to the understanding of size. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| Size may refer to the length of an object, including   * height * width * depth   A length does not need to be a straight line.  The length between  any two points in  space is called distance.  Familiar contexts of distance include   * distance between objects or people * distance between objects on the land * distance between home and school * distance between towns or cities | Length is a measurable attribute that describes the amount of fixed space between the end points of an object.  Length remains the same if an object is repositioned but may be named differently. | Recognize the height, width, or depth of an object as lengths in various orientations. | **Measurement Cluster 2:** **Using Uniform Units**  7: Matching Lengths | Animal Measures  The Amazing Seed  *Link to other grades:*  *Kindergarten*  *The Best in Show* |
| Compare and order objects according to length. | **Measurement Cluster 1:** **Comparing Objects**  1: Comparing Length  **Measurement Cluster 2:** **Using Uniform Units**  7: Matching Lengths | Animals Measures |
| Describe distance in familiar contexts. | *New Lesson to Come: Exploring Distance* |  |
| Indirect comparison is useful when objects are fixed in place or difficult to move.  Comparisons of size can be described by using words such as   * higher * wider * deeper | The size of two objects can be compared indirectly with a third object. | Compare the length, area, or capacity of two objects directly or indirectly using a third object. | **Measurement Cluster 1:** **Comparing Objects**  1: Comparing Length  3: Comparing Capacity  4: Making Comparisons  *(Currently addresses length & capacity; Remove mass and incorporate areas; Provide opportunities for students to measure indirectly using a third object.)*  5: Comparing Area  6: Consolidation  **Measurement Cluster 2:** **Using Uniform Units**  7: Matching Lengths | Animals Measures  The Amazing Seed  *Link to other grades:*  *Kindergarten*  *To Be Long* |
| Order objects according to length, area, or capacity. | **Measurement Cluster 1:** **Comparing Objects**  1: Comparing Length  3: Comparing Capacity  4: Making Comparisons  5: Comparing Area  6: Consolidation  **Measurement Cluster 2: Using Uniform Units**  7: Matching Lengths | The Amazing Seed |

**Mathology Grade 1 Correlation (Patterns) – Alberta**

**Organizing Idea:**

Awareness of patterns supports problem solving in various situations.

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| **Guiding Question:** What can patterns communicate?  **Learning Outcome:** Students examine pattern in cycles. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| A cycle can express repetition of events or experiences.  Cycles include   * seasons * day/night * life cycles * calendars   The same pattern can be represented with different elements.  A pattern core is a sequence of one or more elements that repeats as a unit. | A pattern that appears to repeat may not repeat in the same way forever.  A cycle is a repeating pattern that repeats in the same way forever. | Recognize cycles encountered in daily routines and nature. | *New Lesson to Come: Investigating Cycles* |  |
| Investigate cycles found in nature that inform First Nations, Métis, or Inuit practices. | *New Lesson to Come: Investigating Cycles* |  |
| Identify the pattern core, up to four elements, in a cycle. | *New Lesson to Come: Identify and Describe Pattern in Cycles* | Midnight and Snowfall |
| Identify a missing element in a repeating pattern or cycle. | *New Lesson to Come: Identify and Describe Pattern in Cycles* | Midnight and Snowfall |
| Describe change and constancy in repeating patterns and cycles. | *New Lesson to Come: Identify and Describe Pattern in Cycles* |  |
| Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements. | *New Lesson to Come: Create and Extend Pattern in Cycles* | Midnight and Snowfall |
| Extend a sequence of elements in various ways to create repeating patterns. | *New Lesson to Come: Create and Extend Pattern in Cycles* | Midnight and Snowfall |

**Mathology Grade 1 Correlation (Time) – Alberta**

**Organizing Idea:**

Duration is described and quantified by time.

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| **Guiding Question:** How can time characterize change?  **Learning Outcome:** Students explain time in relation to cycles. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| Time can be perceived through observable change.  First Nations, Métis, and Inuit experience time through sequences and cycles in nature, including cycles of seasons.  Cycles from a calendar include days of the week and months of the year. | Time is an experience of change.  Time can be perceived as a cycle. | Describe cycles of time encountered in daily routines and nature. | **Measurement Cluster 3: Time and Temperature**  16: Ordering Events  19: Relating to Seasons |  |
| Describe observable changes that indicate a cycle of time. | **Measurement Cluster 2: Time**  9: Relating to Seasons |  |
| Relate cycles of seasons to First Nations, Métis, or Inuit practices. | *New Lesson to Come: Cycles in Seasons* |  |
| Identify cycles from a calendar. | *Optional:*  *20: The Calendar*  *New Lesson to Come: Cycles in the Calendar* |  |

**Mathology Grade 1 Correlation (Statistics) – Alberta**

**Organizing Idea:**

The science of collecting, analyzing, visualizing, and interpreting data can inform understanding and decision making.

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| **Guiding Question:** How can data be used to answer questions about the world?  **Learning Outcome:** Students investigate and represent data. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| Data can be collected information. | Data can be answers to questions. | Share wonderings about people, things, events, or experiences. | *New Lesson to Come: Data in our World* |  |
| Gather data by sharing answers to questions. | **Data Management Cluster 1: Data Management**  2: Making Concrete Graphs  3: Making Pictographs | Graph It! |
| A graph is a visual representation of data.  A graph can represent data by using objects, pictures, or numbers. | Data can be represented in a graph. | Collaborate to construct a concrete graph using data collected in the learning environment. | **Data Management Cluster 1: Data Management**  2: Making Concrete Graphs  4: Consolidation | Graph It! |
| Create a pictograph from a concrete graph. | **Data Management Cluster 1: Data Management**  3: Making Pictographs  4: Consolidation | Graph It! |

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Description automatically generatedMathology Grade 1 Correlation (Financial Literacy) – Alberta**

**Organizing Idea:**

Informed financial decision making contributes to the well-being of individuals, groups, and communities.

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| **Guiding Question:** In what ways can money be used?  **Learning Outcome:** Students explore money and how it is used for everyday living. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology.ca and/or Activity Kit**  ***(Suggested ways to align with 2022 curriculum)*** | **Mathology Little Books** |
| Canadian money comes in many forms, such as  • coins  • bills  • debit cards  • credit cards  Canadian coins and bills come in different denominations, such as  • nickels  • dimes  • quarters  • loonies  • toonies  • $5  • $10  • $20  • $50  • $100  Images on Canadian coins and bills include  • wildlife  • sports  • boats  • emblems  • historic figures  Money can be  • shared  • earned  • saved  • spent  • borrowed  Goods are things that are made and produced and can be touched, such as  • toys  • cars  • clothing  • electronics  • books  Services are things individuals do for others, such as  • health services  • personal services  • entertainment  • restaurants  • recreational activities | Money can be used to exchange for goods and  services.  Money has value and purpose in everyday living.  Money has unique features to represent its  value. | Explore the value of Canadian coins and bills. | **Number Cluster 8:Financial Literacy**  36: Value of Coins  *New Lesson to Come: Value of Bills* |  |
| Sort Canadian coins and bills. | **Number Cluster 8:Financial Literacy**  36: Value of Coins  *New Lesson to Come: Value of Bills* |  |
| Identify goods and services that can be  exchanged for money. | *New Lesson to Come: Goods and Services* |  |