**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 202: 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 Numbers26: 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 202: Counting to 503: 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 108: 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 balancebetween twoquantities. | 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 108: Consolidation *(Use side B.)* | That’s 10! *(Addresses numbers to 10.)*Paddling the RiverHockey Time! |
| Model addition and subtraction within 20 in various ways, including with a balance. | **Number Cluster 7: Operational Fluency**29: Adding to 2030: Subtracting 2031: The Number Line33: Part-Part-Whole |  |
| Relate addition and subtraction to various contexts involving composition or decomposition of quantity. | **Number Cluster 5: Composing and Decomposing**17: Decomposing 1018: Numbers to 1019: 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 2030: Subtracting 2031: The Number Line33: Part-Part-Whole35: Consolidation *Link to other grades:****Grade 2 Number Cluster 7: Operational Fluency****34: Fluency with 20* | Buy 1—Get 1Hockey Time!Cats and Kittens!Canada’s Oldest Sport |
| Check differences and sums using inverse operations. | **Number Cluster 7: Operational Fluency**29: Adding to 2030: Subtracting 2031: The Number Line32: Doubles33: Part-Part-Whole34: Solving Story Problems35: Consolidation | Buy 1—Get 1Canada’s Oldest SportCats 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-Whole34: Solving Story Problems35: Consolidation |  |
| Express addition and subtraction symbolically. | **Number Cluster 7: Operational Fluency**31: The Number Line33: Part-Part-Whole34: Solving Story Problems35: Consolidation |  |
| Solve problems using addition and subtraction. | **Number Cluster 7: Operational Fluency**34: Solving Story Problems35: 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 orone of two equalpieces. | 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 setsof 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-dimensionalshapes 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 Triangles3: Identifying Rectangles4: Visualizing Shapes**Geometry Cluster 2: 3-D Solids**7: 3-D Solids11: Face of Solids14: Identifying Shapes | Memory BookWhat 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 Shapes5: Sorting Rules6: Consolidation**Geometry Cluster 2: 3-D Solids**8: Sorting 3-D Solids9: Identifying the Sorting Rule10: 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 Designs13: Covering Outlines15: 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 ShopWhat 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 Symmetry17: Creating Symmetrical Designs18: 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 betweenany two points inspace 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 MeasuresThe 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 Length3: Comparing Capacity4: Making Comparisons*(Currently addresses length & capacity; Remove mass and incorporate areas; Provide opportunities for students to measure indirectly using a third object.)*5: Comparing Area6: Consolidation**Measurement Cluster 2:** **Using Uniform Units**7: Matching Lengths | Animals MeasuresThe 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 Length3: Comparing Capacity4: Making Comparisons5: Comparing Area6: 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 Events19: 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 Graphs3: 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 Graphs4: Consolidation | Graph It! |
| Create a pictograph from a concrete graph. | **Data Management Cluster 1: Data Management**3: Making Pictographs4: Consolidation | Graph It! |

**Mathology 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 cardsCanadian coins and bills come in different denominations, such as• nickels• dimes• quarters• loonies• toonies• $5• $10• $20• $50• $100Images on Canadian coins and bills include• wildlife• sports• boats• emblems• historic figuresMoney can be• shared• earned• saved• spent• borrowedGoods are things that are made and produced and can be touched, such as• toys• cars• clothing• electronics• booksServices are things individuals do for others, such as• health services• personal services• entertainment• restaurants• recreational activities | Money can be used to exchange for goods andservices.Money has value and purpose in everyday living.Money has unique features to represent itsvalue. | 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 beexchanged for money. | *New Lesson to Come: Goods and Services* |  |