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

**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**  | **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**21: Tens and Ones 22: Building and Naming Numbers23: Different Representations 24: Consolidation  | A Family Cookout (Numbers to 50)Grade 2Ways to Count (Numbers to 100) |
| Identify a quantity of 0 in familiar situations. | **Number Cluster 1: Counting**3: Counting On and Back  |  |
| 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 4: Bridging Tens 6: Consolidation **Number Cluster 7: Financial Literacy**36: Value of Coins 38: Counting Collections  | Cats and Kittens |
| Count backward from 20 to 0 by 1s. | **Number Cluster 1: Counting**3: Counting On and Back  |  |
| Skip count to 100, forward by 5s and 10s, starting at 0. | **Number Cluster 1: Counting**5: Skip-Counting Forward 6: Consolidation **Number Cluster 7: Financial Literacy**36: Value of Coins 38: Counting Collections  | How Many is too Many?Grade 2Ways to Count Family Fun Day |
| Skip count to 20, forward by 2s, starting at 0. | **Number Cluster 1: Counting**5: Skip-Counting Forward 6: Consolidation **Number Cluster 7: Financial Literacy**36: Value of Coins 38: Counting Collections  | 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 4: Composing and Decomposing**17: Equal Groups18: Equal Parts |  |
| Demonstrate conservation of number when sharing or grouping. | **Number Cluster 4: Composing and Decomposing**17: Equal Groups18: Equal Parts |  |
| 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**7: Subitizing to 109: Consolidation **Number Cluster 6: Operational Fluency**26: 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 4: Equality and Inequality**13: Exploring Sets 14: Making Equal Sets 15: Using Symbols 16: Consolidation  | Nutty and WolfyGrade 2Kokum’s Bannock  |
| Identify numbers that are one more, two more, one less, and two less than a given number. | **Number Cluster 6: Operational Fluency**25: More or Less |  |
| Represent a quantity relative to another, including symbolically. | **Number Cluster 3: Comparing and Ordering**10.Comparing Sets Concretely 11: Comparing Sets Pictorially 12: Comparing Numbers to 100 13: Consolidation **Number Cluster 5: Early Place Value**25: More or Less  | Paddling the River (Numbers to 20.)Cats and Kittens(Numbers to 20.)Nutty and Wolfy(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**  | **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**7: Subitizing to 108: Estimating Quantities9: Consolidation  | That’s 10! Paddling the RiverHockey Time! |
| Model addition and subtraction within 20 in various ways, including with a balance. | **Number Cluster 6: Operational Fluency**27: Adding to 2028: Subtracting 2030: The Number Line32: Part-Part-Whole33: Patterns in Addition and Subtraction |  |
| Relate addition and subtraction to various contexts involving composition or decomposition of quantity. | **Number Cluster 4: Composing and Decomposing**14: Decomposing 1015: Numbers to 1016: Numbers to 2020: Consolidation |  |
| 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 4: Composing and Decomposing**16: Numbers to 20**Number Cluster 6: Operational Fluency**31: Doubles | That’s 10!Hockey Time!Canada’s Oldest Sport |
| Add and subtract within 20. | **Number Cluster 4: Composing and Decomposing**16: Numbers to 20**Number Cluster 6: Operational Fluency**27: Adding to 2028: Subtracting 2029: Fluency with 2030: The Number Line32: Part-Part-Whole35: Consolidation  | Buy 1—Get 1Hockey Time!Cats and Kittens!Canada’s Oldest Sport |
| Check differences and sums using inverse operations. | **Number Cluster 6: Operational Fluency**27: Adding to 2028: Subtracting 2030: The Number Line31: Doubles32: 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 6: Operational Fluency**32: Part-Part-Whole34: Solving Story Problems35: Consolidation |  |
| Express addition and subtraction symbolically. | **Number Cluster 6: Operational Fluency**30: The Number Line32: Part-Part-Whole34: Solving Story Problems35: Consolidation |  |
| Solve problems using addition and subtraction. | **Number Cluster 6: 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**33: Patterns in Addition and Subtraction | Paddling the River |
| Recognize families of related addition and subtraction number facts. | **Number Cluster 7: Operational Fluency**32: Part-Part-Whole 34: Solving Story Problems |  |
| Recall addition number facts, with addends to 10, and related subtraction number facts. | **Number Cluster 7: Operational Fluency**26: 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** | **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. | **Number Cluster 4: Composing and Decomposing**19: Exploring Halves | Grade 2The Best Birthday |
| Partition an even set of objects into two equal groups, limited to setsof 10 or less. | **Number Cluster 4: Composing and Decomposing**19: Exploring Halves | Grade 2The Best Birthday |
| Partition a shape or object into two equal pieces. | **Number Cluster 4: Composing and Decomposing**19: Exploring Halves |  |
| Describe one of two equal groups or pieces as one-half. | **Number Cluster 4: Composing and Decomposing**19: Exploring Halves |  |
| Verify that the two halves of one whole group, shape, or object are the same size. | **Number Cluster 4: Composing and Decomposing**19: 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** | **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**8: Exploring 3-D Solids9: Sorting 3-D Solids10: Identify the Sorting Rule11: Consolidation | Memory BookWhat Was Here?KindergartenThe Castle Wall |
| Model two-dimensional shapes. | **Grade 2 Geometry Cluster 1: 2-D Shapes**5: Constructing 2-D Shapes |  |
| Sort shapes according to one attribute and describe the sorting rule. | **Geometry Cluster 1: 2-D Shapes**1: Sorting Shapes6: Sorting Rules7: Consolidation**Geometry Cluster 2: 3-D Solids**8: Exploring 3-D Solids9: Sorting 3-D Solids10: Identify the Sorting Rule11: Consolidation | What Was Here? |
| Compose and decompose two- or three-dimensional composite shapes. | **Geometry Cluster 3: Geometric Relationships**13: Making Designs14: Covering Outlines18: Consolidation**Geometry Cluster 1: 2-D Shapes**5: Constructing 2-D Shapes**Geometry Cluster 3: Geometric Relationships**12: Making Shapes17: Building with Solids | The Tailor Shop |
| Identify familiar shapes within two- or three-dimensional composite shapes. | **Geometry Cluster 3: Geometric Relationships**15: Identifying Shapes in Designs**Geometry Cluster 3: Geometric Relationships**12: Making Shapes16: Faces of Solids17: Building with Solids | The Tailor ShopWhat Was Here?Memory BookKindergartenThe Castle Wall Zoom In, Zoom Out |
| Investigate symmetry of two-dimensional shapes by folding and matching. | **Geometry Cluster 4: Symmetry**19: Finding Lines of Symmetry20: Symmetry in 2-D Shapes21: Creating Symmetrical Designs22: Consolidation | 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**  | **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 1:** **Length, Capacity, and Area**2: Matching Lengths | Animal MeasuresThe Amazing SeedKindergartenThe Best in Show |
| Compare and order objects according to length. | **Measurement Cluster 1:** **Length, Capacity, and Area**1: Comparing Length2: Matching Lengths | Animals Measures |
| Describe distance in familiar contexts. | **Measurement Cluster 1:** **Length, Capacity, and Area**3: 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:** **Length, Capacity, and Area**1: Comparing Length2: Matching Lengths4: Comparing Capacity5: Making Comparisons6: Comparing Area7: Consolidation | Animals MeasuresThe Amazing SeedKindergartenTo Be Long |
| Order objects according to length, area, or capacity. | **Measurement Cluster 1:** **Length, Capacity, and Area**1: Comparing Length2: Matching Lengths4: Comparing Capacity5: Making Comparisons6: Comparing Area7: Consolidation | 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** | **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. | **Pattern Cluster 3: Patterns in Cycles**9: Investigating Cycles |  |
| Investigate cycles found in nature that inform First Nations, Métis, or Inuit practices. | **Pattern Cluster 3: Patterns in Cycles**9: Investigating Cycles |  |
| Identify the pattern core, up to four elements, in a cycle. | **Pattern Cluster 3: Patterns in Cycles**10: Identifying and Describing Patterns in Cycles**Pattern Cluster 1: Investigating Repeating Patterns**1: Repeating the Core | Midnight and Snowfall |
| Identify a missing element in a repeating pattern or cycle. | **Pattern Cluster 3: Patterns in Cycles**10: Identifying and Describing Patterns in Cycles**Pattern Cluster 2: Creating Patterns**7: Errors and Missing Elements | Midnight and Snowfall |
| Describe change and constancy in repeating patterns and cycles. | **Pattern Cluster 3: Patterns in Cycles**10: Identifying and Describing Patterns in Cycles3: Predicting Elements |  |
| Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements. | **Pattern Cluster 3: Patterns in Cycles**11: Creating and Extending Patterns in Cycles**Pattern Cluster 1: Investigating Repeating Patterns**2: Representing Patterns3: Predicting Elements4: Consolidation**Pattern Cluster 2: Creating Patterns**5: Extending Patterns | Midnight and Snowfall |
| Extend a sequence of elements in various ways to create repeating patterns. | **Pattern Cluster 3: Patterns in Cycles**11: Creating and Extending Patterns in Cycles12: Consolidation**Pattern Cluster 1: Investigating Repeating Patterns**3: Predicting Elements**Pattern Cluster 2: Creating Patterns**5: Extending Patterns6: Translating Patterns8: Consolidation | 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** | **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 2: Time** 8: Ordering Events9: Cycles in Seasons |  |
| Describe observable changes that indicate a cycle of time. | **Measurement Cluster 2: Time** 10: The Calendar11: Cycles in the Calendar |  |
| Relate cycles of seasons to First Nations, Métis, or Inuit practices. | **Measurement Cluster 2: Time** 9: Cycles in Seasons |  |
| Identify cycles from a calendar. | **Measurement Cluster 2: Time** 10: The Calendar11: Cycles in the Calendar12: Consolidation |  |

**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** | **Mathology Little Books** |
| Data can be collected information. | Data can be answers to questions. | Share wonderings about people, things, events, or experiences. | **Data Management Cluster 1: Data Management**3: Data in Our World | Graph It! |
| Gather data by sharing answers to questions. | **Data Management Cluster 1: Data Management**1: Making Concrete Graphs2: 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**1: Making Concrete Graphs4: Consolidation | Graph It! |
| Create a pictograph from a concrete graph. | **Data Management Cluster 1: Data Management**2: 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** | **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 7:Financial Literacy**36: Value of Coins37: Value of Bills38: Counting Collections39: Money Amounts | Buy 1-Get 1 |
| Sort Canadian coins and bills. | **Number Cluster 7:Financial Literacy**36: Value of Coins37: Value of Bills38: Counting Collections39: Money Amounts |  |
| Identify goods and services that can beexchanged for money. | **Number Cluster 7:Financial Literacy**40: Fair Trades41: Wants and Needs42: Goods and Services43: Consolidation |  |