Mathology Grade 1 Correlation (Number) – Alberta

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

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 20 2: Counting to 50 **Number Cluster 6: Early Place Value** 21: Tens and Ones 22: Building and Naming Numbers 23: Different Representations 24: Consolidation	A Family Cookout (Numbers to 50) Grade 2 Ways 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	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 4: Bridging Tens 6: Consolidation **Number Cluster 7: Financial Literacy** 36: Value of Coins	Cats and Kittens

		one object in a set at a time.		38: Counting Collections	
		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 2 Ways 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 Groups 18: Equal Parts		
		Demonstrate conservation of number when sharing or grouping.	**Number Cluster 4: Composing and Decomposing** 17: Equal Groups 18: Equal Parts		
Familiar arrangements of small quantities facilitate subitizing.	A quantity can be perceived as the	Recognize quantities to 10.	**Number Cluster 2: Spatial Reasoning** 7: Subitizing to 10		

			9: 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 balance between two quantities.	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 Wolfy Grade 2 Kokum'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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		Skills & Procedures		
Knowledge	**Understanding**		**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 10 8: Estimating Quantities 9: Consolidation	That's 10! Paddling the River Hockey Time!
		Model addition and subtraction within 20 in various ways, including with a balance.	**Number Cluster 6: Operational Fluency** 27: Adding to 20 28: Subtracting 20 30: The Number Line 32: Part-Part-Whole 33: 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 10 15: Numbers to 10 16: Numbers to 20 20: Consolidation	

Guiding Question: How can addition and subtraction provide perspectives of number?
Learning Outcome: Students examine addition and subtraction within 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 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 20 28: Subtracting 20 29: Fluency with 20 30: The Number Line 32: Part-Part-Whole 35: Consolidation	Buy 1—Get 1 Hockey Time! Cats and Kittens! Canada's Oldest Sport
		Check differences and sums using inverse operations.	**Number Cluster 6: Operational Fluency** 27: Adding to 20 28: Subtracting 20 30: The Number Line 31: Doubles 32: 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 6: Operational Fluency** 32: Part-Part-Whole 34: Solving Story Problems 35: Consolidation	
		Express addition and subtraction symbolically.	**Number Cluster 6: Operational Fluency** 30: The Number Line 32: Part-Part-Whole 34: Solving Story Problems 35: Consolidation	

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		Solve problems using addition and subtraction.	**Number Cluster 6: 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** 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!

		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 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.	**Number Cluster 4: Composing and Decomposing** 19: Exploring Halves	Grade 2 The Best Birthday
		Partition an even set of objects into two equal groups, limited to sets of 10 or less.	**Number Cluster 4: Composing and Decomposing** 19: Exploring Halves	Grade 2 The 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	

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Mathology Grade 1 Correlation (Geometry) – Alberta

Organizing Idea:
Shapes are defined and related by geometric attributes.

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-dimensional shapes include • squares • circles • rectangles • triangles Familiar three-dimensional shapes include • cubes • prisms • cylinders • spheres • pyramids • cones	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** 8: Exploring 3-D Solids 9: Sorting 3-D Solids 10: Identify the Sorting Rule 11: Consolidation	Memory Book What Was Here? Kindergarten The 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 Shapes 6: Sorting Rules 7: Consolidation **Geometry Cluster 2: 3-D Solids** 8: Exploring 3-D Solids	What Was Here?

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.			9: Sorting 3-D Solids 10: Identify the Sorting Rule 11: Consolidation	
		Compose and decompose two- or three-dimensional composite shapes.	**Geometry Cluster 3: Geometric Relationships** 13: Making Designs 14: Covering Outlines 18: Consolidation **Geometry Cluster 1: 2-D Shapes** 5: Constructing 2-D Shapes **Geometry Cluster 3: Geometric Relationships** 12: Making Shapes 17: 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 Shapes 16: Faces of Solids 17: Building with Solids	The Tailor Shop What Was Here? Memory Book Kindergarten The Castle Wall Zoom In, Zoom Out
		Investigate symmetry of two-dimensional shapes by folding and matching.	**Geometry Cluster 4: Symmetry** 19: Finding Lines of Symmetry 20: Symmetry in 2-D Shapes 21: Creating Symmetrical Designs 22: Consolidation	The Tailor Shop

Mathology Grade 1 Correlation (Measurement) – Alberta

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

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 between any two points in space is called distance. Familiar contexts of distance include • distance between objects or people	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 Measures The Amazing Seed <u>Kindergarten</u> The Best in Show
		Compare and order objects according to length.	**Measurement Cluster 1: Length, Capacity, and Area** 1: Comparing Length 2: Matching Lengths	Animals Measures
		Describe distance in familiar contexts.	**Measurement Cluster 1: Length, Capacity, and Area** 3: Exploring Distance	

• distance between objects on the land • distance between home and school • distance between towns or cities				
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 Length 2: Matching Lengths 4: Comparing Capacity 5: Making Comparisons 6: Comparing Area 7: Consolidation	Animals Measures The Amazing Seed <u>Kindergarten</u> To Be Long
		Order objects according to length, area, or capacity.	**Measurement Cluster 1: Length, Capacity, and Area** 1: Comparing Length 2: Matching Lengths 4: Comparing Capacity 5: Making Comparisons 6: Comparing Area 7: Consolidation	The Amazing Seed

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Mathology Grade 1 Correlation (Patterns) – Alberta

Organizing Idea:
Awareness of patterns supports problem solving in various situations.

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	**Pattern Cluster 3: Patterns in Cycles** 10: Identifying and Describing Patterns in Cycles	

		repeating patterns and cycles.	3: 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 Patterns 3: Predicting Elements 4: 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 Cycles 12: Consolidation **Pattern Cluster 1: Investigating Repeating Patterns** 3: Predicting Elements **Pattern Cluster 2: Creating Patterns** 5: Extending Patterns 6: Translating Patterns 8: Consolidation	Midnight and Snowfall

Mathology Grade 1 Correlation (Time) – Alberta

Organizing Idea:
Duration is described and quantified by time.

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 Events 9: Cycles in Seasons	
		Describe observable changes that indicate a cycle of time.	**Measurement Cluster 2: Time** 10: The Calendar 11: 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 Calendar 11: Cycles in the Calendar 12: Consolidation	

Mathology Grade 1 Correlation (Statistics) – Alberta

Organizing Idea:

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

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 Graphs 2: 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 Graphs 4: Consolidation	Graph It!
		Create a pictograph from a concrete graph.	**Data Management Cluster 1: Data Management** 2: Making Pictographs 4: Consolidation	Graph It!

Matthology Grade 1 Correlation (Financial Literacy) – Alberta

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

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 cards Canadian coins and bills come in different denominations, such as • nickels • dimes • quarters • loonies • toonies • $5 • $10 • $20	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 7: Financial Literacy** 36: Value of Coins 37: Value of Bills 38: Counting Collections 39: Money Amounts	Buy 1-Get 1
		Sort Canadian coins and bills.	**Number Cluster 7: Financial Literacy** 36: Value of Coins 37: Value of Bills 38: Counting Collections 39: Money Amounts	
		Identify goods and services that can be exchanged for money.	**Number Cluster 7: Financial Literacy** 40: Fair Trades 41: Wants and Needs 42: Goods and Services 43: Consolidation	

• $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				