Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.		
Guiding Question	How can quantity contribute to a sense of number?		
Learning Outcome	Students analyze quantity to 1000.		
	Knowledge	Understanding	Skills & Procedures
	Any number of objects in a set can be represented by a natural number. The values of the places in a four-digit natural number are thousands, hundreds, tens, and ones. Places that have no value within a given number use zero as a placeholder. The number line is a spatial representation of quantity.	There are infinitely many natural numbers. Every digit in a natural number has a value based on its place. Each natural number is associated with exactly one point on the number line.	Represent quantities using words and natural numbers. Identify the digits representing thousands, hundreds, tens, and ones based on place in a natural number. Relate a number, including zero, to its position on the number line.
	A quantity can be skip counted in various ways according to context. Quantities of money can be skip counted in amounts that are represented by coins and bills (denominations).	A quantity can be interpreted as a composition of groups.	Decompose quantities into groups of 100s, 10s, and 1s. Count within 1000, forward and backward by 1s, starting at any number. Skip count by 20s, 25s, or 50s, starting at 0. Skip count by 2s and 10s, starting at any number. Determine the value of a collection of coins or bills of the same denomination by skip counting.
	An even quantity will have no remainder when partitioned into two equal groups or groups of two. An odd quantity will have a remainder of one when partitioned into two equal groups or groups of two.	All natural numbers are either even or odd.	Model even and odd quantities by sharing and grouping. Describe a quantity as even or odd. Partition a set of objects by sharing or grouping, with or without remainders.
	A benchmark is a known quantity to which another quantity can be compared.	A quantity can be estimated when an exact count is not needed.	Estimate quantities using benchmarks.
	Words that can describe a comparison between two unequal quantities include • not equal • greater than • less than The less than sign, $<$, and the greater than sign, $>$, are used to indicate inequality between two quantities. Equality and inequality can be modelled using a balance.	Inequality is an imbalance between two quantities.	Model equality and inequality between two quantities, including with a balance. Compare and order natural numbers. Describe a quantity as less than, greater than, or equal to another quantity.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.		
Guiding Question	How can addition and subtraction be interpreted?		
Learning Outcome	Students investigate addition and subtraction within 100.		
	Knowledge	Understanding	Skills & Procedures
	The order in which more than two numbers are added does not affect the sum (associative property).	A sum can be composed in multiple ways.	Visualize 100 as a composition of multiples of 10 in various ways. Compose a sum in multiple ways, including with more than two addends.
	Familiar addition and subtraction number facts facilitate addition and subtraction strategies. Addition and subtraction strategies for two-digit numbers include making multiples of ten and using doubles.	Addition and subtraction can represent the sum or difference of countable quantities or measurable lengths.	Recall and apply addition number facts, with addends to 10, and related subtraction number facts. Investigate strategies for addition and subtraction of two-digit numbers. Add and subtract numbers within 100. Verify a sum or difference using inverse operations. Determine a missing quantity in a sum or difference, within 100, in a variety of ways. Solve problems using addition and subtraction of countable quantities or measurable lengths.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.		
Guiding Question	In what ways can parts compose a whole?		
Learning Outcome	Students interpret part-whole relationships using unit fractions.		
	Knowledge	Understanding	Skills & Procedures
	A whole can be a whole set of objects, or a whole object, that can be partitioned into a number of equal parts. The whole can be any size and is designated by context. A unit fraction describes any one of the equal parts that compose a whole.	Fractions can represent part-to-whole relationships. One whole can be interpreted as a number of unit fractions.	Model a unit fraction by partitioning a whole object or whole set into equal parts, limited to 10 or fewer equal parts. Compare different unit fractions of the same whole, limited to denominators of 10 or less. Compare the same unit fractions of different wholes, limited to denominators of 10 or less. Model one whole, using a given unit fraction, limited to denominators of 10 or less.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Geometry: Shapes are defined and related by geometric attributes.		
Guiding Question	How can shape influence perception of space?		
Learning Outcome	Students analyze and explain geometric attributes of shape.		
	Knowledge	Understanding	Skills & Procedures
	Common geometric attributes include • sides • vertices • faces or surfaces Two-dimensional shapes may have sides that are line segments. Three-dimensional shapes may have faces that are two-dimensional shapes.	Shapes are defined according to geometric attributes. A shape can be visualized as a composition of other shapes.	Sort shapes according to two geometric attributes and describe the sorting rule. Relate the faces of three-dimensional shapes to two-dimensional shapes. Create a picture or design with shapes from verbal instructions, visualization, or memory.
	A shape can change orientation or position through slides (translations), turns (rotations), or flips (reflections). Shapes can be turned or flipped in the creation of art.	Geometric attributes do not change when a shape is translated, rotated, or reflected.	Investigate translation, rotation, and reflection of two- and three-dimensional shapes. Describe geometric attributes of two- and three-dimensional shapes in various orientations. Recognize the translation, rotation, or reflection of shapes represented in artwork.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Measurement: Attributes such as length, area, volume, and angle are quantified by measurement.		
Guiding Question	How can length contribute to interpretations of space?		
Learning Outcome	Students communicate length using units.		
	Knowledge	Understanding	Skills & Procedures
	Tiling is the process of measuring a length by using many copies of a unit without gaps or overlaps. Iterating is the process of measuring a length by repeating one copy of a unit without gaps or overlaps. The unit can be chosen based on the length to be measured. Length can be measured with non-standard units or standard units. Non-standard units found in nature can be used to measure length on the land. Standard units, such as centimetres, can enable a common language around measurement.	Length is quantified by measurement. Length is measured with equal-sized units that themselves have length. The number of units required to measure a length is inversely related to the size of the unit.	Measure length with non-standard units by tiling, iterating, or using a self-created measuring tool. Compare and order measurements of different lengths measured with the same non-standard units, and explain the choice of unit. Compare measurements of the same length measured with different non-standard units. Measure length with standard units by tiling or iterating with a centimetre. Compare and order measurements of different lengths measured with centimetres.
	A referent is a personal or familiar representation of a known length. A common referent from the land or body parts can be used to measure length.	Length can be estimated when a measuring tool is not available.	Identify referents for a centimetre. Estimate length by visualizing the iteration of a referent for a centimetre. Investigate First Nations, Métis, or Inuit use of the land in estimations of length.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Patterns: Awareness of patterns supports problem solving in various situations.		
Guiding Question	How can patterns characterize change?		
Learning Outcome	Students explain and analyze patterns in a variety of contexts.		
	Knowledge	Understanding	Skills & Procedures
	Change can be an increase or a decrease in the number and size of elements. A hundreds chart is an arrangement of natural numbers that illustrates multiple patterns. Patterns can be found and created in cultural designs.	A pattern can show increasing or decreasing change. A pattern is more evident when the elements are represented, organized, aligned, or oriented in familiar ways.	Describe non-repeating patterns encountered in surroundings, including in art, architecture, cultural designs, and nature. Investigate patterns in a hundreds chart. Create and express growing patterns using sounds, objects, pictures, or actions.
	Attributes of elements, such as size and colour, can contribute to a pattern.	A pattern core can vary in complexity.	Create and express a repeating pattern with a pattern core of up to four elements that change by more than one attribute.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Time: Duration is described and quantified by time.		
Guiding Question	How can duration support interpretation of time?		
Learning Outcome	Students relate duration to time.		
	Knowledge	Understanding	Skills & Procedures
	Events can be related to calendar dates. Duration can be described using comparative language such as longer or shorter. Duration can be measured in non-standard units, including events, natural cycles, or personal referents. Winter counts are First Nations symbolic calendars that record oral traditions and significant events.	Time can be communicated in various ways. Duration is the measure of an amount of time from beginning to end.	Express significant events using calendar dates. Describe the duration between or until significant events using comparative language. Describe the duration of events using non-standard units. Relate First Nations' winter counts to duration.
	Time can be described using standard units such as days or minutes.	Duration is quantified by measurement.	Describe the relationship between days, weeks, months, and years. Describe the duration between or until significant events using standard units of time.

Mathematics Grade 2 Curriculum

	Grade 2		
Organizing Idea	Statistics: The science of collecting, analyzing, visualizing, and interpreting data can inform understanding and decision making.		
Guiding Question	How can data inform representation?		
Learning Outcome	Students relate data to a variety of representations.		
	Knowledge	Understanding	Skills & Procedures
	Data can be collected by asking questions. First-hand data is data collected by the person using the data.	Data can be collected to answer questions.	Generate questions for a specific investigation within the learning environment. Collect first-hand data by questioning people within the learning environment.
	Data can be recorded using tally marks, words, or counts. Data can be expressed through First Nations, Métis, or Inuit stories. A graph includes features such as • a title • a legend • axes • axis labels Data can be represented with graphs such as • pictographs • bar graphs • dot plots	Data can be represented in various ways.	Record data in a table. Construct graphs to represent data. Interpret graphs to answer questions. Compare the features of pictographs, dot plots, and bar graphs.