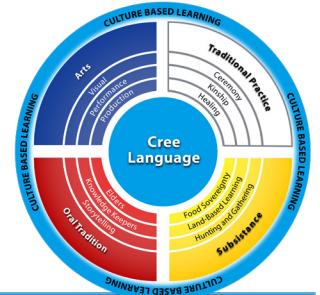

























Math


Knowledge
Understanding
Skills & Procedures
ᑭᑦᑲᑦᑲᑦ Nehiyaw Ways of Knowing
Other Suggestions
ORGANIZING IDEA
Number: 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.

<p>A numeral is a symbol or group of symbols used to represent a number.</p> <p>The absence of quantity is represented by 0.</p>	<p>Quantity is expressed in words and numerals based on patterns.</p> <p>Quantity in the world is represented in multiple ways.</p>	<p>Represent quantities using words, numerals, objects, or pictures.</p> <p>Identify a quantity of 0 in familiar situations.</p>	 Canning and Preserving Series (4 videos)	<p>Learn Cree numbers in verbal and written forms.</p> <p> See Online Cree Dictionary and APP; KTCEA Elders Speak APP.</p> <p>  The Number Song</p> <p>Consider using manipulatives from the environment for counting (e.g., stones, twigs, berries, rosehips, leaves, etc.). When you're done with them, take the opportunity to talk about stewardship and respect for these natural items.</p> <ul style="list-style-type: none"> • What should we do with them when we're done? • How can we be respectful?
<p>Counting can begin at any number.</p> <p>Counting more than one object at a time is called skip counting.</p>	<p>Counting can begin at any number.</p> <p>Counting more than one object at a time is called skip counting.</p>	<p>Count within 100, forward by 1s, starting at any number, according to the counting principles. Count backward from 20 to 0 by 1s.</p> <p>Skip count to 100, forward by 5s and 10s, starting at 0.</p> <p>Skip count to 20, forward by 2s, starting at 0.</p>		
<p>Sharing involves partitioning a quantity into a certain number of groups.</p> <p>Grouping involves partitioning a quantity into groups of a certain size.</p>	<p>Quantity can be partitioned by sharing or grouping.</p>	<p>Partition a set of objects by sharing and grouping.</p> <p>Demonstrate conservation of number when sharing or grouping.</p>		

 Knowledge	Understanding	Skills & Procedures	 Nehiyaw Ways of Knowing	Other Suggestions
<p>Comparisons of quantity can be described by using words such as</p> <ul style="list-style-type: none"> • equal • not equal • less • more <p>Equality can be modelled using a balance.</p> <p>The equal sign, =, is used to show equality between two quantities.</p> <p>The unequal sign, ≠, is used to show that two quantities are not equal.</p>	<p>Two quantities are equal when there is the same number of objects in both sets.</p> <p>Equality is a balance between two quantities.</p>	<p>Investigate equal and unequal quantities, including using a balance model.</p> <p>Identify numbers that are one more, two more, one less, and two less than a given number.</p> <p>Represent a quantity relative to another, including symbolically.</p>	<p>   Canning and Preserving Series: Canning Berries</p> <p>  Legend of Night and Day</p> <p>  13 Moons</p> <p> Distance – Concept of Zero</p> <p> Trickster and the Ducks</p>	<p>Zero is not represented in the Cree Language. However, “no more, all gone-mukway” is.</p> <p>Use beats or drumming, clapping, or stomping on numbers when skip counting by 2’s, 5’s, 10’s.</p> <p> "Discovering Numbers," Neepin Auger, 2020.</p>
<p>Quantities can be composed or decomposed to model a change in quantity.</p> <p>Addition can be applied in various contexts, including</p> <ul style="list-style-type: none"> • combining parts to find the whole • increasing an existing quantity <p>Subtraction can be applied in various contexts, including</p> <ul style="list-style-type: none"> • comparing two quantities • taking away one quantity from another • finding a part of a whole <p>Addition and subtraction can be modelled using a balance.</p>	<p>Addition and subtraction are processes that describe the composition and decomposition of quantity.</p>	<p>Visualize quantities between 10 and 20 as compositions of 10 and another quantity.</p> <p>Model addition and subtraction within 20 in various ways, including with a balance.</p> <p>Relate addition and subtraction to various contexts involving composition or decomposition of quantity.</p>	<p> Canning and Preserving Series: Pickling Vegetables</p>	

	Knowledge	Understanding	Skills & Procedures	ᑭᑭᑭᑭ Nehiyaw Ways of Knowing	Other Suggestions
	<p>Strategies are meaningful steps taken to solve problems.</p> <p>Addition and subtraction strategies include</p> <ul style="list-style-type: none"> • counting on • counting back • decomposition • compensation • making tens <p>Sums and differences can be expressed symbolically using the addition sign, +, the subtraction sign, -, and the equal sign, =.</p> <p>The order in which two quantities are added does not affect the sum (commutative property).</p> <p>The order in which two quantities are subtracted affects the difference.</p> <p>Addition of 0 to any number, or subtraction of 0 from any number, results in the same number (zero property).</p> <p>A missing quantity in a sum or difference can be represented in different ways, including</p> <ul style="list-style-type: none"> • $a + b = \square$ • $a + \square = c$ • $\square + b = c$ • $e - f = \square$ • $e - \square = g$ • $\square - f = g$ 	<p>Addition and subtraction are opposite (inverse) mathematical operations.</p>	<p>Investigate addition and subtraction strategies.</p> <p>Add and subtract within 20.</p> <p>Check differences and sums using inverse operations.</p> <p>Determine a missing quantity in a sum or difference, within 20, in a variety of ways.</p> <p>Express addition and subtraction symbolically.</p> <p>Solve problems using addition and subtraction.</p>	<p> Beading</p>	

 Knowledge	Understanding	Skills & Procedures	ᑭᑦᑎᑦᑎᑦ Nehiyaw Ways of Knowing	Other Suggestions
<p>Addition and subtraction number facts represent part-part-whole relationships.</p> <p>Fact families are groups of related addition and subtraction number facts.</p>	<p>Addition number facts have related subtraction number facts.</p>	<p>Identify patterns in addition and subtraction, including patterns in addition tables.</p> <p>Recognize families of related addition and subtraction number facts.</p> <p>Recall addition number facts, with addends to 10, and related subtraction number facts.</p>		
ORGANIZING IDEA				
Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.				
GUIDING QUESTION				
In what ways can parts and wholes be related?				
LEARNING OUTCOME				
Students examine one-half as a part-whole relationship.				
<p>One-half can be one of two equal groups or one of two equal pieces.</p>	<p>In a quantity partitioned into two equal groups, each group represents one half of the whole quantity.</p> <p>In a shape or object partitioned into two identical pieces, each piece represents one-half of the whole.</p>	<p>Identify one-half in familiar situations.</p> <p>Partition an even set of objects into two equal groups, limited to sets of 10 or less.</p> <p>Partition a shape or object into two equal pieces.</p> <p>Describe one of two equal groups or pieces as one-half.</p> <p>Verify that the two halves of one whole group, shape, or object are the same size.</p>	<p> Legend of Bear and Grass</p> <p> Legend of Night and Day</p>	<p> Move & Play Through Traditional Games – stick pull game, run and scream</p> <p>Graphing beading patterns – use the coloured beads to represent and apply concepts of quantity, equal and unequal (create 2 more, 1 less...).</p>



Knowledge

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Other Suggestions

ORGANIZING IDEA**Geometry: 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.**

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.

Model two-dimensional shapes.

Sort shapes according to one attribute and describe the sorting rule.

Compose and decompose two- or three-dimensional composite shapes.

Identify familiar shapes within two- or three-dimensional composite shapes.

Investigate symmetry of two-dimensional shapes by folding and matching.

 **Camp Set Up Series: Tipi Set Up/ Tipi Teachings**

 **Trickster and the Tipi**

 **Legend of Tipi**

  **Trickster and the Tipi (Told in Cree)**



CPAR Kindergarten Mathematics: Geometry 1

First Nations, Métis, and Inuit infusion: Learn the names of 3D shapes and how they relate to the natural world. Shapes in nature.



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ORGANIZING IDEA

Measurement: 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.

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.

Compare and order objects according to length.

Describe distance in familiar contexts.

 **Distance – Concept of Zero**

 **The Legend of Weasel (distance for spider compared to weasel)**

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.

Order objects according to length, area, or capacity.



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Other Suggestions

ORGANIZING IDEA**Patterns: Awareness of patterns supports problem solving in various situations.****GUIDING QUESTION****What can patterns communicate?****LEARNING OUTCOME****Students examine patterns in cycles.****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.











Investigate cycles found in nature that inform First Nations, Métis, or Inuit practices.**Identify the pattern core, up to four elements, in a cycle.****Identify a missing element in a repeating pattern or cycle.****Describe change and constancy in repeating patterns and cycles.****Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements.****Extend a sequence of elements in various ways to create repeating patterns.**



Orienteering Series:

- Trade Winds/ Cloud Directions/Directional Growth
- Weather Indicators



Legend of Night and Day

 Knowledge	Understanding	Skills & Procedures	 Nehiyaw Ways of Knowing	Other Suggestions
ORGANIZING IDEA				
Time: Duration is described and quantified by time.				
GUIDING QUESTION				
How can time characterize change?				
LEARNING OUTCOME				
Students explain time in relation to cycles.				
<p>Time can be perceived through observable change.</p> <p>First Nations, Métis, and Inuit experience time through sequences and cycles in nature, including cycles of seasons.</p> <p>Cycles from a calendar include days of the week and months of the year.</p>	<p>Time is an experience of change.</p> <p>Time can be perceived as a cycle.</p>	<p>Describe cycles of time encountered in daily routines and nature.</p> <p>Describe observable changes that indicate a cycle of time.</p> <p>Relate cycles of seasons to First Nations, Métis, or Inuit practices.</p> <p>Identify cycles from a calendar.</p>	<p>   Legend of Night and Day   13 Moons </p>	<p>Investigate how each month is named in Cree.</p> <p>  Woodland Cree (Months) Poster </p> <p>Interpretations for the calendar year months.</p> <p>   When the Trees Crackle with Cold: A Cree Calendar Masinahikan How to say the words </p> <p>  Link to Social Studies and Math: Learn Alberta: Grade 1 Lesson Plan </p> <p>Discuss with students how the light changes in the winter. When is the shortest day and the longest night? What kinds of activities do families enjoy during long winter evenings? For many First Nations, Métis, and Inuit, winter is the season to gather with family and for Elders to share their stories and wisdom.</p> <p>[continued...]</p>

	Knowledge	Understanding	Skills & Procedures	ᑭᑭᑭᑭ Nehiyaw Ways of Knowing	Other Suggestions
					<p>[continued...]</p> <p>Discuss the interconnections between the animals in the story, the stars, the snow, the moon, and the trees. Describe how everything is connected in the universe and why this is something that is celebrated.</p>
ORGANIZING IDEA					
Statistics: 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.					
Data can be collected information.	Data can be answers to questions.	Share wonderings about people, things, events, or experiences. Gather data by sharing answers to questions.	 Introduction to Traps and Snares Series: Different types of Traps		
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. Create a pictograph from a concrete graph.			