

 Big Idea, Major Concepts, GLOs	Specific Learning Outcomes ELOs are bold	Season	Nehiyaw Ways of Knowing
NUMBER AT A GLANCE Estimating, mental math and problem solving; recall math facts to 9; 2x2digit multiplying with problem solving; 3 digit x 1 digit division with problem solving; equivalency with fractions; decimals to the thousandths; relate decimals to fractions			
Quantity Operational Sense Relationships Representation Reasoning			
The Base Ten Numeration System-is a scheme for recording numbers 0-9, groups of ten(s), and place value.	1. Represent and describe whole numbers to 1 000 000. [C, CN, V, T] [ICT: C6-2.2]		<ul style="list-style-type: none"> • Look at animal populations within the area - get numbers from fish and wildlife; look at travelling from one point to another - track distance and time
Numbers-the set of real numbers is infinite. Each real number can be associated with a unique point on the number line. (counting numbers, whole numbers, integers, fractions/rational numbers) Estimation-approximated numerical calculations using numbers/ referents that are easier to compute with mentally.	2. Use estimation strategies in problem-solving contexts. [C, CN, ME, PS, R, V]		
Properties-for a given set of numbers there are relationships that are always true. These rules govern arithmetic and algebra. (properties of operations, properties of equality) Basic Facts and Algorithms- operations with rational numbers.	3. Apply mental mathematics strategies and number properties in order to understand and recall basic multiplication facts (multiplication tables) to 81 and related division facts. [C, CN, ME, R, V] Understand, recall and apply multiplication and related division facts to 9x9. 4. Apply mental mathematics strategies for multiplication. [C, CN, ME, R, V]		<ul style="list-style-type: none"> • Use topics from SS, Sci and land based learning to address this ELO



Big Idea, Major Concepts, GLOs

Properties-for a given set of numbers there are relationships that are always true. These rules govern arithmetic and algebra. (properties of operations, properties of equality)

Basic Facts and Algorithms- operations with rational numbers.

Specific Learning Outcomes

ELOs are bold

5. Demonstrate, with and without concrete materials, an understanding of multiplication (2-digit by 2-digit) to solve problems. [C, CN, PS, V] Note: Students investigate a variety of strategies, including standard/traditional algorithms, to become proficient in at least one appropriate and efficient strategy that they understand. Note: Through this outcome, students have the opportunity to maintain and refine previously learned operations of addition and subtraction with whole numbers: Grade 4, Number SO 3 – Demonstrate an understanding of addition of numbers with answers to 10 000 and their corresponding subtractions (limited to 3- and 4-digit numerals) by:

- using personal strategies for adding and subtracting
- estimating sums and differences
- solving problems involving addition and subtraction. [C, CN, ME, PS, R]

6. Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit), and interpret remainders to solve problems. [C, CN, ME, PS, R, V] Note: Students investigate a variety of strategies, including standard/traditional algorithms, to become proficient in at least one appropriate and efficient strategy that they understand. Note: Through this outcome, students have the opportunity to maintain and refine previously learned operations of addition and subtraction with whole numbers: Grade 4, Number SO3 – Demonstrate an understanding of addition of numbers with answers to 10 000 and their corresponding subtractions (limited to 3- and 4-digit numerals) by:

- using personal strategies for adding and subtracting
- estimating sums and differences
- solving problems involving addition and subtraction. [C, CN, ME, PS, R]

7. Demonstrate an understanding of fractions by using concrete, pictorial and symbolic representations to:

- create sets of equivalent fractions
- compare fractions with like and unlike denominators. [C, CN, PS, R, V]

8. Describe and represent decimals (tenths, hundredths, thousandths), concretely, pictorially and symbolically. [C, CN, R, V]






Season



Nehiyaw Ways of Knowing

- **Infuse the Cree language - follow the math terms Ask students to figure out how real life LBL camp activities: e.g., How many poles are needed to make 5 tipis? Connections to beading work**

- **Using animal populations; looking at canning ingredients**

 Big Idea, Major Concepts, GLOs	Specific Learning Outcomes <small>ELOs are bold</small>	Season	Nehiyaw Ways of Knowing
Properties-for a given set of numbers there are relationships that are always true. These rules govern arithmetic and algebra. (properties of operations, properties of equality) Basic Facts and Algorithms- operations with rational numbers	9. Relate decimals to fractions and fractions to decimals (to thousandths). [CN, R, V] 10. Compare and order decimals (to thousandths) by using: <ul style="list-style-type: none"> • benchmarks • place value • equivalent decimals. [C, CN, R, V] 11. Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths). [C, CN, PS, R, V] Note: Through this outcome, students have the opportunity to maintain and refine previously learned operations of addition and subtraction with whole numbers: Grade 4, Number SO 3 – Demonstrate an understanding of addition of numbers with answers to 10 000 and their corresponding subtractions (limited to 3- and 4-digit numerals) by: <ul style="list-style-type: none"> • using personal strategies for adding and subtracting • estimating sums and differences • solving problems involving addition and subtraction. [C, CN, ME, PS, R] 		
 PATTERNS AND RELATIONS AT A GLANCE Determining pattern rules; solve problems involving one step equations; express problem in an equation with a letter variable			
Patterns Relationships Variables Expressions Equations			
Patterns-are relationships that can be described and generalizations made for mathematical situations that have numbers or objects that repeat in predictable ways. (numbers, geometry)	1. Determine the pattern rule to make predictions about subsequent elements. 2. Express a given problem as an equation in which a letter variable is used to represent an unknown number (limited to whole numbers).		<ul style="list-style-type: none"> • Animal populations, finished bead work, diverse human populations
Variable-mathematical structures can be translated and represented abstractly using variables, expressions and equations.	3. Solve problems involving single-variable, one-step equations with whole number coefficients and whole number solutions.		


**SHAPE AND SPACE – MEASUREMENT
AT A GLANCE**
Identify 90 degree angles; understanding volume
Attributes Relationships Units

Measurement-some attributes of objects are measurable and can be quantified using unit amounts. (time, length, area, mass, volume, capacity, magnitude, perimeter, angles)

1. Identify 90° angles.

2. Design and construct different rectangles, given either perimeter or area, or both (whole numbers), and make generalizations.

 3. Demonstrate an understanding of measuring length (mm) by:

- selecting and justifying referents for the unit mm
- modelling and describing the relationship between mm and cm units, and between mm and m units

4. Demonstrate an understanding of volume by:

- selecting and justifying referents for cm³ or m³ units
- estimating volume, using referents for cm³ or m³
- measuring and recording volume (cm³ or m³)
- constructing right rectangular prisms for a given volume


5. Demonstrate an understanding of capacity by:

- describing the relationship between mL and L
- selecting and justifying referents for mL or L units
- estimating capacity, using referents for mL or L
- measuring and recording capacity (mL or L).






**SHAPE AND SPACE– 3-D OBJECTS AND 2-D SHAPES
AT A GLANCE**

Describe edges and faces of 2D shapes and 3D objects

Shape and Space-2D and 3D objects can be constructed, described, classified, analyzed by their attributes.

6. Describe and provide examples of edges and faces of 3-D objects, and sides of 2-D shapes that are: parallel, intersecting, perpendicular, vertical, horizontal.


7. Identify and sort quadrilaterals, including: rectangles, squares, trapezoids, parallelograms, rhombuses, according to their attributes.

 Big Idea, Major Concepts, GLOs	Specific Learning Outcomes <small>ELOs are bold</small>	Season	Nehiyaw Ways of Knowing
SHAPE AND SPACE – TRANSFORMATIONS AT A GLANCE			
Transformations-objects in space can be transformed in an infinite number of ways. Transformations can be described and analyzed mathematically.	8. Identify and describe a single transformation, including a translation, rotation and reflection of 2-D shapes.		
	9. Perform, concretely, a single transformation (translation, rotation or reflection) of a 2-D shape, and draw the image.		
 STATISTICS AND PROBABILITY AT A GLANCE Construct and interpret double bar graphs			
Data Collection-the question to be answered determines the data that needs to be collected and how best to collect it. Data Representation-data can be represented and interpreted visually using tables, charts, and graphs.	1. Differentiate between first-hand and second-hand data.		
	2. Construct and interpret double bar graphs to draw conclusions.		
CHANCE AND UNCERTAINTY AT A GLANCE			
Chance-the chance of an event occurring can be describe numerically. (probability)	3. Describe the likelihood of a single outcome occurring, using words such as: impossible, possible, certain.		
	4. Compare the likelihood of two possible outcomes occurring, using words such as: less likely, equally likely, more likely.		