Fall

HOW THE FALL CURRICULUM CHARTS ARE ORGANIZED

The Learning Outcomes that follow from **Mathematics** must be taught during the FALL season. Learning outcomes must be grounded in Nehiyaw Ways of Knowing and Land Based Learning.

The content from Land Based Learning, Nehiyaw Ways of Knowing, Social Studies and Science should be applied to the **Mathematics** outcomes. Throughout the year, teachers will collaborate and generate more/other ideas that will value add to the suggested connections.

Big Idea, Major Concepts, GLOs	Specific Learning Outcomes ELOs are bold; Others are *need to know* or *worth being familiar with*	Season	Nehiyaw Ways of Knowing and Land Based Learning FALL ELO rows are highlighted
	NUMBER		
Develop number sense	**1. Demonstrate an understanding of perfect squares and square roots, concretely, pictorially and symbolically (limited to whole numbers). [C, CN, R, V]***		
	2. Determine the approximate square root of numbers that are not perfect squares (limited to whole numbers). [C, CN, ME, R, T] [ICT: P2–3.4		
	3. Demonstrate an understanding of percents greater than or equal to 0%, including greater than 100%. [CN, PS, R, V]		
	4. Demonstrate an understanding of ratio and rate. [C, CN, V]		
	5. Solve problems that involve rates, ratios and proportional reasoning. [C, CN, PS, R]		
	6. Demonstrate an understanding of multiplying and dividing positive fractions and mixed numbers, concretely, pictorially and symbolically. [C, CN, ME, PS]		
	7. Demonstrate an understanding of multiplication and division of integers, concretely, pictorially and symbolically. [C, CN, PS, R, V]		

The Essential Learning Outcomes (ELOs) identified in these charts by the KTCEA working group are based on **their local context**. An educational authority from a different region of Alberta may identify different ELOs, based on their context. All outcomes in Alberta Education's Program of Studies must be taught, but what is deemed essential will look different, based on context.

Winter

HOW THE WINTER CURRICULUM CHARTS ARE ORGANIZED

The Learning Outcomes that follow from **Mathematics** must be taught during the WINTER season. Learning outcomes must be grounded in Nehiyaw Ways of Knowing and Land Based Learning.

The content from Land Based Learning, Nehiyaw Ways of Knowing, Social Studies and Science should be applied to the **Mathematics** outcomes. Throughout the year, teachers will collaborate and generate more/other ideas that will value add to the suggested connections.

Big Idea, Major Concepts, GLOs	Specific Learning Outcomes ELOs are bold; Others are *need to know* or *worth being familiar with*	Season	Nehiyaw Ways of Knowing and Land Based Learning WINTER ELO rows are highlighted
	PATTERNS AND RELATIONS		
General Outcome (Patterns): Use patterns to describe the world and to solve problems.	**1. Graph and analyze two-variable linear relations. [C, ME, PS, R, T,, V] [ICT: P2–3.3]**		
General Outcome (Variables and Equations): Represent algebraic expressions in multiple ways.	**2. Model and solve problems concretely, pictorially and symbolically, using linear equations of the form:** • **ax = b** • **x/a=b = , a ≠ 0** • **ax + b = c** • **/a +b = c, a ≠ 0** • **a(x + b) = c** **where a, b and c are integers.[C, CN, PS, V]**		

Spring

HOW THE SPRING CURRICULUM CHARTS ARE ORGANIZED

The Learning Outcomes that follow from **Mathematics** must be taught during the SPRING season. Learning outcomes must be grounded in Nehiyaw Ways of Knowing and Land Based Learning.

The content from Land Based Learning, Nehiyaw Ways of Knowing, Social Studies and Science should be applied to the **Mathematics** outcomes. Throughout the year, teachers will collaborate and generate more/other ideas that will value add to the suggested connections.

Big Idea, Major Concepts, GLOs	Specific Learning Outcomes ELOs are bold; Others are *need to know* or *worth being familiar with*	Season	Nehiyaw Ways of Knowing and Land Based Learning SPRING ELO rows are highlighted
	SHAPE AND SPACE		
General Outcome (Measurement): Use direct and indirect measurement to solve problems.	**1. Develop and apply the Pythagorean theorem to solve problems. [CN, PS, R, T, V] [ICT: P2–3.4]**		
	2. Draw and construct nets for 3-D objects. [C, CN, PS, V]		
	3. Determine the surface area of: [C, CN, PS, R, V] • **right rectangular prisms** • **right triangular prisms** • **right cylinders to solve problems.**		
	4. Develop and apply formulas for determining the volume of right rectangular prisms, right triangular prisms and right cylinders. [C, CN, PS, R, V]		
General Outcome (3-D Objects and 2-D Shapes): Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.	5. Draw and interpret top, front and side views of 3-D objects composed of right rectangular prisms. [C, CN, R, T, V] [ICT: C6–3.4]		
General Outcome (Transformations): Describe and analyze position and motion of objects and shapes.	6. Demonstrate an understanding of the congruence of polygons. [CN, R, V]		

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Big Idea, Major Concepts, GLOs	Specific Learning Outcomes ELOs are bold; Others are *need to know* or *worth being familiar with*	Season	Nehiyaw Ways of Knowing and Land Based Learning SPRING ELO rows are highlighted
	STATISTICS AND PROBABILITY		
General Outcome (Data Analysis): Collect, display and analyze data to solve problems.	1. Critique ways in which data is presented in circle graphs, line graphs, bar graphs and pictographs. [C, R, T, V] [ICT: C7–3.1, C7–3.2, F4–3.3]		
General Outcome (Chance and Uncertainty): Use experimental or theoretical probabilities to represent and solve problems involving uncertainty.	**2. Solve problems involving the probability of independent events. [C, CN, PS, T] [ICT: P2–3.4]**		

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