

The purpose of this document is to provide a possible Year Plan for organizing your units of instruction but more importantly, it provides a possible approach to scaffolding the learning that students will need if they do not have the prerequisite knowledge. Sections highlighted in yellow suggest starting points for addressing the Learner Outcome at a more appropriate entry level. Students will require sufficient time to access prior knowledge so a spiralled approach to the Learner Outcomes will likely be necessary.

Alberta Mathematics Sample Year Plan

Grade 1

This resource has been created by Teachers/Administrators/Directors/Consultants from Zone 4 and SAPDC. The purpose is to provide a common starting point for the New K-3 Mathematics Curriculum being implemented in September 2022. This is a guide which will also be used to offer targeted Professional learning based on the approximate schedules contained within.

What is Mathematics?

Mathematics is a universal language relying on a shared understanding of symbols and procedures to communicate ideas efficiently. It is a powerful tool used every day to solve real-life problems. The beauty of mathematics inspires curiosity about our world and the universe. As a subject, mathematics has historical roots in many cultures and continues to evolve in support of innovations. Mathematics involves learning across various disciplines, including arithmetic, algebra, geometry, statistics, and probability. In all disciplines, procedures may range from counting, calculating, and measuring to analyzing, modelling, and generalizing. Engaging with mathematics allows students to develop logical thinking skills, which contribute to effective decision making and problem solving. Students are able to extend their thinking beyond personal experiences through flexible and collaborative learning opportunities. Experiences with mathematics help students develop appreciation for the patterns and relationships that describe multiple aspects of the world and its future possibilities.

Numeracy, Quantitative Information and Spatial Information

Numeracy is a foundational building block of learning and is developed in all subjects in different ways. Central to the development of numeracy, the mathematics curriculum helps students acquire and apply the knowledge and skills necessary to interact with quantitative and spatial information in a variety of situations. Foundational numeracy focuses on counting, comparing, and calculating* with numbers; describing, representing, and measuring shapes and objects; collecting, organizing, and interpreting data; and creating and interpreting diagrams, graphs, and tables. Numeracy skills support real-life pursuits, including telling time, using and managing money, following instructions, finding an address, and reading a schedule. With a focus on numeracy, the mathematics curriculum provides all students with a solid foundation of mathematical knowledge, understanding, and skills to set them up for future success.

Mathematics education is an ongoing process of connecting students' concrete experiences to their comprehension of abstract concepts. A recognition of numbers and their application to counting and comparing form foundational knowledge and skills for students as they encounter a variety of quantitative information in their lives. The development of these skills supports students as they participate in family, community, and cultural activities. As their experiences broaden, students also learn that operations with numbers provide reliable and efficient options to counting and comparing. Students acquire knowledge of basic number facts that can be applied to addition, subtraction, multiplication, and division of larger numbers using commonly recognized algorithms. Students also communicate using conventional mathematical symbols and vocabulary. As students are exposed to more and varied quantitative information, they learn about different number systems and their applications to various situations, such as decimals for money and integers for temperature. In developing algebraic thinking skills, students transfer their understandings of properties of number to new or abstract problems.

Numeracy, Quantitative Information and Spatial Information

Although mathematics is often considered the study of numbers, it also provides the tools to interpret spatial information in the world. The earliest mathematical experiences of children involve exploration of the space and objects around them. Mathematics provides the foundations for precisely describing, defining, and measuring spatial information. Students will learn geometric properties that relate to and distinguish shapes. They will also develop an understanding of measurement, progressing from direct comparison, to the use of non-standard units of measure, to accurately measuring with various standard units and tools. Examining shapes through measures and calculations of length, area, volume, and angle will allow students to build a broad understanding of spatial information. Students will extend their application of spatial knowledge and skills from concrete to abstract situations, precisely describing location and movement of shapes in a plane. They will develop knowledge of geometric properties, theorems, and formulas to appreciate complex patterns within traditional cultural designs, to solve immediate real-life problems, and to propose innovations.

Throughout the study of mathematics, students apply their foundational knowledge, understandings, skills, and procedures to solve problems. They visualize and reason to move from what is known to what is sought. Thinking logically about a problem, choosing a strategy, reaching a conclusion, and justifying the solution helps students develop confidence in their mathematical thinking and decision making. These processes are reinforced by both literacy and numeracy skills and continue to develop throughout students' lives to support a wide variety of needs, such as financial literacy.

The foundational knowledge and skills provided by the mathematics curriculum are important contributions to the future success of students. Students will apply abilities in computation, managing information, reasoning, and problem solving in daily life and in future educational pursuits and careers. Mathematics will help students interact in society with confidence and intellectual curiosity. Students will rely on their mathematical knowledge and skills as they continue into adulthood in our interconnected and ever changing world. *Note: Learning outcomes in the Mathematics Kindergarten to Grade 6 Curriculum are intended to be achieved without the support of calculators.

source: Final Curriculum: Kindergarten to Grade 3 will be implemented starting September 2022. Grades 4 to 6 are available for optional implementation starting September 2022, Introduction, page 1.

September 2022 -----		----- November 2022	
September		October	November
<p>Number: Quantity is measured with numbers that enable counting, labelling, comparing and operating.</p>			
<p>1N1.2 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time. 	<p>1N1.2 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time. 	<p>1N1.2 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time. 	
<p>1N1.3 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities Quantity can be partitioned by sharing or grouping. 	<p>1N1.3 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities Quantity can be partitioned by sharing or grouping. 	<p>1N1.3 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities Quantity can be partitioned by sharing or grouping. 	
<p>1N1.1 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> Quantity is expressed in words and numerals based on patterns. Quantity in the world is represented in multiple ways. including with money. 	<p>1N1.1 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> Quantity is expressed in words and numerals based on patterns. Quantity in the world is represented in multiple ways. including with money. 	<p>1N1.1 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> Quantity is expressed in words and numerals based on patterns. Quantity in the world is represented in multiple ways. including with money. 	
<p>1N1.5 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. 	<p>1N1.5 Students interpret and explain quantities to 100.(to 20)</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. 	<p>1N1.4 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities. <p>1N1.5 Students interpret and explain quantities to 100.(to 50)</p>	

Sample Year Plan: Mathematics - Grade 1

September 2022 ----- November 2022		
September	October	November
<p>1N2. 1 Students examine addition and subtraction within 20. (introduce)</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity. 	<p>1N2. 1 Students examine addition and subtraction within 20. (introduce)</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity. 	<ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. Quantity can be partitioned by sharing or grouping. <p>1N2. 1 Students examine addition and subtraction within 20. (introduce)</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity.
<p>Patterns: Awareness of patterns supports problem solving in various situations.</p>		
<p>1P1. Students examine patterns in cycles.</p> <ul style="list-style-type: none"> 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. 	<p>1P1. Students examine patterns in cycles.</p> <ul style="list-style-type: none"> 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. 	<p>1P1. Students examine patterns in cycles.</p> <ul style="list-style-type: none"> 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.
<p>Time: Duration is described and quantified with time.</p>		
<ul style="list-style-type: none"> Cycles - summer to fall - introduce here Calendar Time all year Weekly cycles could consider the Indigenous Calendar for teaching specific topics at an appropriate time. 	<p>1T1. Students explain time in relation to cycles.</p> <ul style="list-style-type: none"> Time is an experience of change Time can be perceived as a cycle 	<p>1T1. Students explain time in relation to cycles.</p> <ul style="list-style-type: none"> Time is an experience of change Time can be perceived as a cycle

Sample Year Plan: Mathematics - Grade 1

September 2022 ----- November 2022		
September	October	November
All of the above is ongoing through the year		
Measurement: Attributes such as length, area, volume, and angle are quantified by measurement.		
Geometry: Shapes are defined by geometric attributes.		

December 2022 -----		----- January 2023	
December		January	February
<p>Number: Quantity is measured with numbers that enable counting, labelling, comparing and operating.</p>			
<p>1N1.2 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time. <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping. <p>1N1.1 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> Quantity is expressed in words and numerals based on patterns. Quantity in the world is represented in multiple ways. including with money. <p>1N1.4 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities. <p>1N1.5 Students interpret and explain quantities to 100.(to 50)</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. 	<p>1N1.2 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time. <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping. <p>1N1.1 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Quantity is expressed in words and numerals based on patterns. Quantity in the world is represented in multiple ways. including with money. <p>1N1.4 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities. <p>1N1.5 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. <p>1N2. 1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity 	<p>1N1.2 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time. <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping.. <p>1N1.1 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Quantity is expressed in words and numerals based on patterns. Quantity in the world is represented in multiple ways. including with money. <p>1N1.4 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> A quantity can be perceived as the composition of smaller quantities. <p>1N1.5 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities.. <p>1N2. 1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity 	

Sample Year Plan: Mathematics - Grade 1

December 2022 ----- January 2023		
December	January	February
<p>1N2. 1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity 		
<p>Patterns: Awareness of patterns supports problem solving in various situations.</p>		
<p>1P1. Students examine patterns in cycles.</p> <ul style="list-style-type: none"> 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. 	<p>1P1. Students examine patterns in cycles.</p> <ul style="list-style-type: none"> 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. 	<p>1P1. Students examine patterns in cycles.</p> <ul style="list-style-type: none"> 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.
<p>Time: Duration is described and quantified with time.</p>		
<p>1T1. Students explain time in relation to cycles.</p> <ul style="list-style-type: none"> Time is an experience of change. Time can be perceived as a cycle. 	<p>1T1. Students explain time in relation to cycles.</p> <ul style="list-style-type: none"> Time is an experience of change. Time can be perceived as a cycle. 	<p>1T1. Students explain time in relation to cycles.</p> <ul style="list-style-type: none"> Time is an experience of change. Time can be perceived as a cycle.
<p>Measurement: Attributes such as length, area, volume, and angle are quantified by measurement.</p>		
	<p>1M1.1 Students relate length to the understanding of size.</p> <ul style="list-style-type: none"> Length is a measurable attribute that describes the amount of fixed space between the endpoints of an object. Length remains the same if an object is repositioned but may be named differently 	<p>1M1.1 Students relate length to the understanding of size.</p> <ul style="list-style-type: none"> Length is a measurable attribute that describes the amount of fixed space between the endpoints of an object. Length remains the same if an object is repositioned but may be named differently

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December 2022 -----		-----	January 2023
December	January	February	
	<p>1M1.2 Students relate length to the understanding of size</p> <ul style="list-style-type: none"> The size of two objects can be compared indirectly with a third object.. 	<p>1M1.2 Students relate length to the understanding of size</p> <ul style="list-style-type: none"> The size of two objects can be compared indirectly with a third object. 	
Geometry: Shapes are defined by geometric attributes.			
		<p>1G1. Students interpret shape in two and three dimensions.</p> <ul style="list-style-type: none"> A shape can be modeled in various sizes and orientations A shape can be composed of two or more shapes. <p>Maintain existing terminology of 2D- Shapes & 3D Objects</p>	

Sample Year Plan: Mathematics - Grade 1

March 2023		June 2023	
March	April	May	June
<p>Number: Quantity is measured with numbers that enable counting, labelling, comparing and operating.</p>			
<p>1N1.2 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping. <p>1N1.5 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. <p>1N2.1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity 	<p>1N1.2 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping. <p>1N1.5 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. <p>1N2.1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity. 	<p>1N1.2 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping. <p>1N1.5 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. <p>1N2.1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity. 	<p>1N1.2 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Each number counted includes all previous numbers (counting principle: hierarchical inclusion) A quantity can be determined by counting more than one object in a set at a time <p>1N1.3 Students represent equal sharing and grouping of quantities within 20.</p> <ul style="list-style-type: none"> Quantity can be partitioned by sharing or grouping. <p>1N1.5 Students interpret and explain quantities to 100.</p> <ul style="list-style-type: none"> Two quantities are equal when there is the same number of objects in both sets. Equality is a balance between two quantities. <p>1N2.1 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are processes that describe the composition and decomposition of quantity.

Sample Year Plan: Mathematics - Grade 1

March 2023		June 2023	
March	April	May	June
<p>1N2.2 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction are opposite (inverse) mathematical operations <p>1N2. 3 Students examine addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition number facts have related subtraction number facts. <p>1N3. Students examine one-half as part-whole relationship.</p> <ul style="list-style-type: none"> 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. 	<p>1N2. 2 Students acquire an understanding of addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction can show a change in quantity through joining, separating, or comparing. <p>1N2. 3 Students acquire an understanding of addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition number facts have related subtraction number facts. <p>1N3. Students examine one-half as part-whole relationship.</p> <ul style="list-style-type: none"> 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. 	<p>1N2. 2 Students acquire an understanding of addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction can show a change in quantity through joining, separating, or comparing. <p>1N2. 3 Students acquire an understanding of addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition number facts have related subtraction number facts. <p>1N3. Students examine one-half as part-whole relationship.</p> <ul style="list-style-type: none"> 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. 	<p>1N2. 2 Students acquire an understanding of addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition and subtraction can show a change in quantity through joining, separating, or comparing. <p>1N2. 3 Students acquire an understanding of addition and subtraction within 20.</p> <ul style="list-style-type: none"> Addition number facts have related subtraction number facts. <p>1N3. Students examine one-half as part-whole relationship.</p> <ul style="list-style-type: none"> 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.
<p>Patterns: Awareness of patterns supports problem solving in various situations.</p>			
<p>1P1. Students examine pattern in cycles.</p> <ul style="list-style-type: none"> 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. 			

Sample Year Plan: Mathematics - Grade 1

March 2023 ----- June 2023			
March	April	May	June
Time: Duration is described and quantified with time.			
1T1. Students explain time in relation to cycles. <ul style="list-style-type: none"> • Time is an experience of change. • Time can be perceived as a cycle 	1T1. Students explain time in relation to cycles. <ul style="list-style-type: none"> • Time is an experience of change. • Time can be perceived as a cycle 	1T1. Students explain time in relation to cycles. <ul style="list-style-type: none"> • Time is an experience of change. • Time can be perceived as a cycle 	1T1. Students explain time in relation to cycles. <ul style="list-style-type: none"> • Time is an experience of change. • Time can be perceived as a cycle
Geometry: Shapes are defined by geometric attributes.			
	1G1. Students interpret shape in two and three dimensions. <ul style="list-style-type: none"> • A shape can be modeled in various sizes and orientations. • A shape is symmetrical if it can be decomposed into matching halves (fractions) 	1G1. Students interpret shape in two and three dimensions. <ul style="list-style-type: none"> • A shape can be modeled in various sizes and orientations. • A shape is symmetrical if it can be decomposed into matching halves (fractions) 	1G1. Students interpret shape in two and three dimensions. <ul style="list-style-type: none"> • A shape can be modeled in various sizes and orientations. • A shape is symmetrical if it can be decomposed into matching halves (fractions)
Statistics: The science of collecting, analyzing, visualizing and interpreting data can inform understanding and decision making.			

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March 2023		June 2023	
March	April	May	June
<p>1ST1. Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be answers to questions. <p>May wish to do Stats all year and integrate into Science.</p>	<p>1ST1. Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be answers to questions. <p>1ST1.2 Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be represented in a graph. 	<p>1ST1. Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be answers to questions. <p>1ST1.2 Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be represented in a graph. 	<p>1ST1. Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be answers to questions. <p>1ST1.2 Students investigate and represent data.</p> <ul style="list-style-type: none"> Data can be represented in a graph.