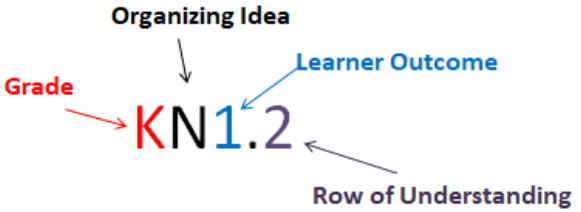

Numbered Curriculum Document - Please read first to understand the numbering in this document.
Please access the numbered curriculum document video instructions by clicking the hyperlinked title.

Alberta Mathematics K-6 Scope and Sequence

Number and Operations

Grade	K	1	2	3	4	5	6
Learning Outcome	**KN1 Children investigate quantity to 10.**	**1N1 Students interpret and explain quantities to 100.**	**2N1 Students analyze quantities to 1000**	**3N1 Students interpret place value within 100 000**	**4N1 Students apply place value to decimal numbers**	**5N1 Students analyze patterns in place Value**	**6N1 Students Investigate magnitude with positive and negative numbers**
Number Concepts	**KN1.1** Composition and Decomposition of Quantities to 10 **K1.4** Comparing Quantities using more. Less, same, enough, not enough	**1N1.1** Quantity to 100 using words, numerals, objects, pictures **1N1.3** Grouping and Partitioning numbers **1N1.5** Equality and unequal to 100 =and ≠	**2N1.1** Quantity to 1000 using place value understanding (natural numbers) **2N1.3** Odd and Even numbers (remainders) **2N1.5** Inequality comparing natural numbers using less than <, greater than >,not equal	**3N1.1** Quantity to 100 000 using place value understanding (base-10 system & natural numbers) less than <, greater than > $ sign in French and English Count money	**4N1.1** Decimal numbers including tenths and hundredths using place value understanding	**5N1.1** Numbers within 10 000 000 Decimal numbers to thousandths using place value understanding	**6N1.1** Integers additive inverses **6N1.2** Adding integers **6N1.3** Subtracting integers

Counting	**KN1.2** Counting Principles Stable Order, Order irrelevance, One-to one principle, Cardinality, Abstraction Quantity within 10 forwards and backwards from any number **KN1.3** Subitize quantities to 5	**1N1.2** Counting Principles Hierarchical Inclusion Count forwards within 100 by 1s, from any number using the counting principles, Backwards from 20 to 0 by 1's, Skip count to 100 by 5's and 10s, and forward by 2's to 20 starting at 0 **1N1.4** Subitizing to 10	**2N1.2** Count within 1000 forward and backwards by 1s, 10s and 100's from any number using the counting principles Skip count by 2's and 10's from any number Skip count by 20, 25, or 50 starting at 0 Use $$ to skip count **2N1.4** Use benchmarks to estimate to 1000				

Learning Outcome	KN2 Children interpret compositions of quantities within 10.	1N2 Students examine addition and subtraction within 20.	2N2 Students investigate addition and subtraction within 100.	3N2 Students apply strategies for addition and subtraction within 1000.	4N2 Students add and subtract within 10 000, including decimal numbers to hundredths.	5N2 Students add and subtract within 1 000 000, including decimal numbers to thousandths, using standard algorithms.	6N2 Students solve problems using standard algorithms for addition and subtraction.
Addition and Subtraction	**KN2.1** Composition and decomposition of quantities to 10 (counting principles)	**1N2.1** Examine addition and subtraction within 20 **1N2.2** Addition and subtraction within 20 **1N2.3** Recall basic addition facts to 20 and related subtraction facts	**2N2.1** Sums can be composed in multiple ways within 100 (more than 2 addends) **2N2.2** Add and subtract within 100	**3N2.1** Add and subtract within 1000	**4N2.1** Add and subtract within 10 000, including decimal numbers to hundredths. Problems involving money	**5N2.1** Add and subtract within 1 000 000, including decimal numbers to thousandths using algorithms	**6N2.1** Add and subtract using algorithms, including money and metric measurement

Learning Outcome		**3N3** **Students analyze and apply strategies for multiplication and division within 100.**	**4N3** **Students explain properties of prime and composite numbers using multiplication and division.**	**5N3** **Students determine divisibility of natural numbers.**	**6N3** **Students analyze numbers using prime factorization and exponentiation .**
Multiplication and Division **Operation Sense**		**3N3.1** Quantities can be composed through multiplication and division within 100 Use equal groups, arrays and area **3N3.2** Multiplication tables Multiplication number facts have related division facts 10x10	**4N3.1** Prime and Composite numbers using multiplication and division	**5N3.1** Divisibility tests (including 0)	**6N3.1** Associative Property, prime factorization, common factors **6N3.2** Exponents

Learning Outcome		**4N4** **Students multiply and divide natural numbers within 10 000.**	**5N4** **Students multiply and divide natural numbers within 100 000, including with standard algorithms**	**6N4** **Students apply standard algorithms to multiplication and division of decimal and natural numbers.**
Computations **Multiplication and Division**		**4N4.1** Multiplication facts up to 12x12 Multiply and divide 3 digit by 1 digit Effect of multiplying by 10, 100 and 1000 Divide and express a quotient with or without a remainder	**5N4.1** Multiply 3 digit by 2 digit and divide 3 digit by 1 digit	**6N4.1** Multiply and divide up to 3 digit natural or decimal numbers by 2 digit natural numbers

Learning Outcome Fractions		**1N3 Students examine one-half as a part-whole relationship.**	**2N3 Students interpret part-whole relationships using unit fractions.**	**3N4 Students interpret fractions in relation to one whole.**	**4N5 Students apply equivalence to the interpretation of fractions.**	**5N5 Students interpret improper fractions.**	**6N5 Students relate fractions to quotients.**
		1N3.1 One-half (2 equal groups)	**2N3.1** Unit fractions limited to 10 or fewer equal parts	**3N4.1** Equivalent Fractions as composition of unit fractions limited to denominators up to 12 in relation to one whole	**4N5.1** Equivalent Fractions created by partitioning each equal part of a fraction the same way. Recognizing simplest form **4N5.2** Decimal Fraction understanding Convert decimal to fraction and fraction to decimal. (only when the denominator is a multiple of 10.	**5N5.1** Fractions greater than one. Improper and Mixed Numbers	**6N5.1** Fractions represent quotients. Convert Fractions to decimals using division.

Learning Outcome		**5N6 Students add and subtract fractions with common denominators**	**6N6 Students add and subtract fractions with denominators within 100**
Adding and Subtracting Fractions		**5N6.1** Add and Subtract Fractions with common denominators	**6N6.1** Add and subtract Fractions
Learning Outcome			**6N7 Students interpret the multiplication of natural numbers by fractions.**
Multiplication of Fractions			**6N7.1** Multiplication of fractions with a natural number Relate the multiplication of a unit fraction to division

Learning Outcome		**4N6 Students interpret Percentages**	**5N7 Students employ ratios to represent relationships between quantities.**	**6N8 Students apply equivalence to the interpretation of ratios and rates.**
Percents, Rates and Rations		**4N6.1** Represent the same part-whole relationship as Fractions, decimals, and percentages	**5N7.1** Represent the same part-whole relationship as fractions, decimals, ratios and percentages	**6N8.1** Unit Rates, Equivalent ratios, percentage of a number

Alberta Mathematics K-6 Scope and Sequence

Algebra

	K	1	2	3	4	5	6
Learning Outcome				**3A1 Students illustrate equality with equations.**	**4A1 Students represent and apply equality in multiple ways**	**5A1 Students interpret numerical and algebraic expressions.**	**6A1 Students analyze expressions and solve algebraic equations.**
Equations, Inequalities and Expressions				**3A1.1** Two expressions are equal if they represent the same quantity **3A1.2** Model one- step equations using one operation (symbol represents unknown)	**4A1.1** Evaluate expressions according to Order of Operations **4A1.2** Solve one-step equations to preserve equality	**5A1.1** Evaluate expressions according to Order of Operations that include parenthesis **5A1.2** Algebraic Expressions **5A1.3** Use inverse operations to solve one or two step equations	**6A1.1** Evaluate Expressions according to Order of Operations that include Powers **6A1.2** Algebraic properties: Commutative and Associative Properties of addition and multiplication -Distributive properties **6A1.3** Solve one or two step linear equations

Alberta Mathematics K-6 Scope and Sequence

Geometry

	K	1	2	3	4	5	6
Learning Outcomes	**KG1 Children investigate shape.**	**1G1 Students interpret shape in two and three dimensions.**	**2G1 Students analyze and explain geometric attributes of shape.**	**3G1 Students relate geometric properties to shape.**	**4G1 Students analyze and explain geometric properties.**	**5G1 Students investigate symmetry as a geometric property.**	**6G1 Students analyze shapes through symmetry and congruence.**
Geometric Characteristics and Relationships	**KG1.1** 2D and 3D shapes found in nature - circles, -triangles -cubes -cylinders Terms-flat, curved, straight and round	**1G1.1** 2D shapes -squares, -circles, -rectangles, -triangles 3D shapes -cubes -prisms, - cylinders, -spheres, -pyramids, -cones Line of symmetry	**2G1.1** Geometric attributes, -sides -vertices -faces or surfaces Sort according to 2 attributes Create a picture or design with shapes from verbal instructions or memory **2G1.2** Investigate Translations, Rotations and Reflections	**3G1.1** Geometric Properties Perpendicular, Parallel, Equal Right angles Polygons -triangles -quadrilaterals -pentagons -hexagons -octagons Regular and Irregular polygons **3G1.2** Transformations of polygons Translations Reflections, Rotations	**4G1.1** Angle relationships supplementary and complementary Quadrilaterals Triangles-classification by sides and angles **4G1.2** Compare shapes that are close approximations	**5G1.1** 2D and 3D shapes have Reflection Symmetry Order of Rotational Symmetry in 2D shapes Central Symmetry **5G1.2** Regular polygons-Reflection and Rotational Symmetry	**6G1.1** Symmetry and Congruency Two transformations Reflection and Rotation Symmetry Symmetry in Tessellations **6G1.2** Symmetry and Congruency of Shapes

Alberta Mathematics K-6 Scope and Sequence

Coordinate Geometry

	K	1	2	3	4	5	6
Learning Outcome						**5CG1 Students relate location to position on a grid.**	**6CG1 Students explain location and movement in relation to position in the Cartesian plane**
Location and Movement of Objects						**5CG1.1** Coordinate Grids Positional Language	**6CG1.1** Cartesian Plane **6CG1.2** Transformations on a Cartesian Plane -Translation, -Reflection, -Rotation

Alberta Mathematics K-6 Scope and Sequence

Measurement

	K	1	2	3	4	5	6
Learning Outcome	**KM1 Children explore size through direct comparison.**	**1M1 Students relate length to the understanding of size.**	**2M1 Students communicate length using units.**	**3M1 Students determine length using standard units.**	**4M1 Students interpret and express area.**	**5M1 Students estimate and calculate area using standard units.**	**6M1 Students analyze areas of parallelograms and triangles.**
Length, Perimeter and Area	**KM1.1** Identify measurable attributes for length, area, capacity and weight	**1M1.1** Direct comparison of length including height, width, depth	**2M1.1** Non-standard and standard measurement of length. Tiling is the process of measuring a length by using many copies of a unit without gaps or overlaps.	**3M1.1** Length using standard units - Metric Measures -metre -millimeter -centimetre -decimetre Imperial Measures 12 inches = 1 foot 36 inches in one yard 3 feet equals one yard Approximate measures: -2 ½ cm = 1 inch -1 metre approximately 3 feet -30 cm	**4M1.1** Area non-standard and standard units Recognize the rearrangement of area in First Nations, Métis, or Inuit design. **4M1.2** Estimate area using square cm.	**5M1.1** Area -square cm -square meter -square kilometer Area and Perimeter of Rectangles	**6M1.1** Area of parallelograms and triangles **6M1.2** Area of composite figures

				approximately 1 foot 1 metre approximately 1 yard **3M1.2** Perimeter of polygons **3M1.3** Estimating length using a benchmark (cm, m)			
Size	**KM1.2** Direct comparisons of size longer, shorter, heavier, lighter, too big, too small	**1M1.2** Indirect comparisons with a third object -higher -wider, -deeper	**2M1.2** Referents for centimeter Investigate First Nations, Métis, or Inuit use of the land in estimations of length.				

LEARNING OUTCOME		**3M2 Students interpret angles.**	**4M2 Students determine and express angles using standard units.**		
Angles		**3M2.1** Interpret Angles **3M2.2** Comparing angles directly or indirectly	**4M2.1** Measuring and Classifying Angles		
LEARNING OUTCOME					**6M2 Students interpret and express volume.**
VOLUME					**6M2.1** Volume of prisms

Alberta Mathematics K-6 Scope and Sequence

Patterns

	K	1	2	3	4	5	6
	KP1 **Children identify and create repeating patterns.**	**1P1** **Students examine patterns in cycles.**	**2P1** **Students explain and analyze patterns in a variety of contexts.**	**3P1** **Students analyze patterns in numerical sequences.**	**4P1** **Students interpret and explain arithmetic and geometric sequences.**	**5P1** **Students relate terms to position within an arithmetic sequence.**	**6P1** **Students investigate functions to enhance understanding of change.**
Patterns and Relations	**KP1.1** Repeating patterns 1 or more elements Create a pattern with up to 3 repeating elements	**1P1.1** Patterns in cycles seasons day/night life cycles calendars Up to 4 elements in pattern core in a cycle	**2P1.1** Increasing and decreasing numerical and non-numerical patterns **2P1.2** Pattern up to 4 elements that change by more than 1 attribute	**3P1.1** Patterns in numerical sequences - both finite and infinite sequences Ordinal numbers **3P1.2** Numerical sequences can be made using addition, subtraction, multiplication or division (skip-counting)	**4P1.1** Arithmetic sequences both increasing and decreasing -triangular and square number -Fibonacci sequence **4P1.2** Arithmetic vs. Geometric sequences	**5P1.1** Arithmetic sequence in tables Algebraic expressions, limited to one operation Graphing table of values in a coordinate grid-linear relations.	**6P1.1** Functions

Alberta Mathematics K-6 Scope and Sequence

Time

	K	1	2	3	4	5	6
	KT1 **Children interpret time as a sequence of events.**	**1T1** **Students explain time in relation to cycles.**	**2T1** **Students relate duration to time.**	**3T1** **Students tell time using clocks.**	**4T1** **Students communicate duration with standard units of time.**		
Time	**KT1.1** Sequence of events - first -next -today -yesterday -tomorrow	**1T1.1** Time in relation to a cycle - days of the week -months of the year	**2T1.1** Duration -longer, shorter -duration between or until events 2T1.2 Standard units in Time -days -weeks -months -years -minutes	**3T1.1** Tell time Clocks- /seconds/ minutes/ hours -am/pm -Analog and digital clocks -express the time -12hr vs 24hr clock	**4T1.1** Telling time with fractions of the circle -quarter past the hour -Half past the hour -quarter to the hour Duration of time		

Alberta Mathematics K-6 Scope and Sequence

Statistics

	K	1	2	3	4	5	6
		1ST1 **Students investigate and represent data.**	**2ST1** **Students relate data to a variety of representations**	**3ST1** **Students interpret and explain representations of data.**	**4ST1** **Students evaluate the use of scale in graphical representations of data.**	**5ST1** **Students analyze frequency in categorical data.**	**6ST1** **Students investigate relative frequency using experimental data.**
Data Collection		**1ST1.1** Gather data	**2ST1.1** Collect first-hand data	**3ST1.1** Statistical Questions	**4ST1.1** Statistical Problem Solving	**5ST1.1** Mode	**6ST1.2** Relative frequency
Data and Graphs		**1ST1.2** Record data in a graph - concrete - pictograph	**2ST1.2** Record Data using -tally marks, words, or counts Graphs have: -title -legend -axes -axis labels Represent and interpret data using -pictographs -bar graphs -dot plots	**3ST1.2** First-hand and second-hand data Represent data using - dot plot - bar graph with one to one correspondence Examine First Nations, Métis, or Inuit representations of data.	**4ST1.2** Many to one correspondence to represent data Different representations tell different stories about the same data.	**5ST1.2** Open ended vs closed ended questions	**6ST1.2** Likelihood of outcomes. Collect data through experiments Equally likely Outcomes