



Correlation of Saskatchewan Program of Studies with Mathology Grade 6 (Number)

| Curriculum Expectations | Grade 6 Mathology.ca | Pearson Canada Grades 4-6 Mathematics Learning Progression |
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| Goals: Number Sense, Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour | | |
| <p>Outcomes N6.1 Demonstrate understanding of place value including:</p> <ul style="list-style-type: none"> • greater than one million • less than one thousandth with and without technology. | <p>Number Unit 1: Number Relationships and Place Value 1: Representing Larger Numbers (to 1 000 000 and Beyond) 2: Representing Numbers in Different Forms 5: Consolidation of Number Relationships and Place Value</p> <p>Number Unit 2: Fluency with Whole Numbers 6: Solving Problems with Whole Numbers 7: Estimating Reasonableness of Solutions 12: Consolidation of Fluency with Whole Numbers</p> <p>Number Unit 3: Fractions, Decimals, Percents, and Integers 15: Representing Decimals 16: Comparing and Ordering Decimals 21: Consolidation of Fractions, Decimals, Percents and Integers</p> <p>Number Unit 4: Operations with Fractions and Decimals 22: Multiplying Decimals by 1-Digit Numbers 24: Dividing Decimals by 1-Digit Numbers 26: Adding and Subtracting Decimals</p> | <p>Big Idea: The set of real numbers is infinite. Extending whole number understanding to the set of real numbers - Extends whole number understanding to 1 000 000. - Extends decimal number understanding to thousandths. Big Idea: Numbers are related in many ways. Comparing and ordering quantities (multitude or magnitude) - Compares, orders, and locates whole numbers based on place-value understanding, and records using <, =, and > symbols. - Compares, orders, and locates decimal numbers using place-value understanding. Decomposing and composing numbers to investigate equivalencies - Composes and decomposes whole numbers using standard and non-standard partitioning (e.g., 1000 is 10 hundreds or 100 tens). - Composes and decomposes decimal numbers using standard and non-standard partitioning (e.g., 1.6 is 16 tenths or 0.16 tens). Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units. Unitizing quantities into base-ten units - Writes and reads whole numbers in multiple forms (e.g., 1358; one thousand</p> |

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| | <p>30: Consolidation of Operations Fractions and Decimals</p> | <p>three hundred fifty-eight; $1000 + 300 + 50 + 8$).</p> <ul style="list-style-type: none"> - Understands that the value of a digit is ten times the value of the same digit one place to the right. - Understands that the value of a digit is one-tenth the value of the same digit one place to the left. - Writes and reads decimal numbers in multiple forms (e.g., numerals, number names, expanded form). <p>Big Idea: Quantities and numbers can be operated on to determine how many and how much.</p> <p>Developing conceptual meaning of operations</p> <ul style="list-style-type: none"> - Extends whole number computation models to larger numbers. - Demonstrates an understanding of decimal number computation through modelling and flexible strategies. <p>Developing fluency of operations</p> <ul style="list-style-type: none"> - Solves whole number computation using efficient strategies (e.g., mental computation, algorithms, calculating cost of transactions and change owing, saving money to make a purchase). - Solves decimal number computation using efficient strategies. |
| <p>N6.2 Demonstrate understanding of factors and multiples (concretely, pictorially, and symbolically) including:</p> <ul style="list-style-type: none"> • determining factors and multiples of numbers less than 100 • relating factors and multiples to multiplication and division • determining and relating prime and composite numbers. | <p>Number Unit 1: Number Relationships and Place Value</p> <p>3: Identifying Factors and Multiples</p> <p>4: Identifying Prime and Composite Numbers</p> <p>5: Consolidation of Number Relationships and Place Value</p> | <p>Big Idea: Numbers are related in many ways.</p> <p>Decomposing and composing numbers to investigate equivalencies</p> <ul style="list-style-type: none"> - Decomposes numbers into prime factors. <p>Big Idea: Quantities and numbers can be operated on to determine how many and how much.</p> <p>Investigating number and arithmetic properties</p> <ul style="list-style-type: none"> - Determines whether one number is a multiple of any one-digit number. - Examines and classifies whole numbers based on their properties (e.g., even/odd; prime; composite; divisible by 2, 5, and 10). - Generates multiples and factors for numbers using flexible strategies. - Distinguishes between and investigates properties of prime and composite numbers (e.g., prime factorization). <p>Developing fluency of operations</p> |

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| | | - Fluently recalls multiplication and division facts to 100. |
| N6.3 Demonstrate understanding of the order of operations on whole numbers, (excluding exponents) with and without technology. | Number Unit 2: Fluency with Whole Numbers 8: The Order of Operations 9: Mental Math Strategies 12: Consolidation of Fluency with Whole Numbers | Big Idea: Quantities and numbers can be operated on to determine how many and how much. Investigating number and arithmetic properties - Applies order of operations for whole numbers and explains the effect when order is not followed. |
| N6.4 Extend understanding of multiplication and division to decimals (1-digit whole number multipliers and 1-digit natural number divisors). | Number Unit 4: Operations with Fractions and Decimals 22: Multiplying Decimals by 1-Digit Numbers 24: Dividing Decimals by 1-Digit Numbers 30: Consolidation of Operations with Fractions and Decimals | Big Idea: Quantities and numbers can be operated on to determine how many and how much. Developing conceptual meaning of operations - Demonstrates an understanding of decimal number computation through modelling and flexible strategies. Developing fluency of operations - Solves decimal number computation using efficient strategies. |
| N6.5 Demonstrate understanding of percent (limited to whole numbers to 100), concretely, pictorially, and symbolically. | Number Unit 3: Fractions, Decimals, Percents, and Integers 18: Relating Fractions, Decimals, and Percents 21: Consolidation of Fractions, Decimals, Percents and Integers | Big Idea: Numbers are related in many ways. Decomposing and composing numbers to investigate equivalencies - Models and explains the relationships among fractions, decimals, and percents. - Translates flexibly between representations. |
| N6.6 Demonstrate understanding of integers, concretely, pictorially, and symbolically. | Number Unit 3: Fractions, Decimals, Percents, and Integers 19: Representing Integers 20: Comparing and Ordering Integers 21: Consolidation of Fractions, Decimals, Percents and Integers | Big Idea: The set of real numbers is infinite Extending whole number understanding to the set of real numbers - Extends whole number understanding to negative numbers. |
| N6.7 Extend understanding of fractions to improper fractions and mixed numbers. | Number Unit 3: Fractions, Decimals, Percents, and Integers 13: Representing Fractions 14: Comparing and Ordering Fractions 21: Consolidation of Fractions, Decimals, Percents and Integers | Big Idea: Numbers are related in many ways. Comparing and ordering quantities (multitude or magnitude) - Compares, orders, and locates fractions using flexible strategies (e.g., comparing models; creating common denominators or numerators). Estimating quantities and numbers - Estimates the size and magnitude of fractions by comparing to benchmarks. Decomposing and composing numbers |

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| | | <p>to investigate equivalencies</p> <ul style="list-style-type: none"> - Models equivalent forms of improper fractions and mixed numbers using flexible strategies. |
| <p>N6.8 Demonstrate an understanding of ratio, concretely, pictorially, and symbolically.</p> | <p>Number Unit 2: Fluency with Whole Numbers</p> <p>11: Exploring Ratios</p> <p>12: Consolidation of Fluency with Whole Numbers</p> | <p>Big Idea: Numbers are related in many ways.</p> <p>Using ratios, rates, proportions, and percents creates a relationship between quantities</p> <ul style="list-style-type: none"> - Understands the concept of ratio as a relationship between two quantities (e.g., 3 wins to 2 losses). |
| <p>N6.9 Research and present how First Nations and Metis peoples, past and present, envision, represent, and use quantity in their lifestyles and worldviews.</p> | | |

Correlation of Saskatchewan Program of Studies with Mathology Grade 6 (Patterns and Relationships)

| Curriculum Expectations | Grade 6 Mathology.ca | Pearson Canada Grades 4-6 Mathematics Learning Progression |
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| Goals: Number Sense, Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| <p>Outcomes P6.1 Extend understanding of patterns and relationships in tables of values and graphs.</p> | <p>Patterning Unit 1: Patterning 1: Investigating Patterns and Relationships in Tables and Graphs 2: Solving Problems 4: Consolidation of Patterning</p> | <p>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Representing patterns, relations, and functions - Represents a numeric or shape pattern using a table of values by pairing the term value with a term number. - Represents a mathematical context or problem with expressions and equations using variables to represent unknowns. Generalizing and analyzing patterns, relations, and functions - Explains the rule for numeric patterns including the starting point and change (e.g., given: 16, 22, 28, 34, Start at 16 and add 6 each time). - Describes numeric and shape patterns using words and numbers. - Predicts the value of a given element in a numeric or shape pattern using pattern rules. - Describes the relationship between two numeric patterns (e.g., for every 4 steps, she travels 3 metres).</p> |
| <p>P6.2 Extend understanding of preservation of equality concretely, pictorially, physically, and symbolically.</p> | <p>Patterning Unit 2: Variables and Equations 6: Investigating Equality in Equations 10: Consolidation of Variables and Equations</p> | <p>Big Idea: Patterns and relations can be represented with symbols, equations, and expressions. Understanding equality and inequality, building on generalized properties of numbers and operations - Recognizes that an equal sign between two expressions with variables indicates that the expressions are equivalent (e.g., $5n - 4 = 3n$; $3r = 2 + s$). - Investigates and models the meaning of preservation of equality of single variable equations (e.g., $3x = 12$).</p> |

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| <p>P6.3 Extend understanding of patterns and relationships by using expressions and equations involving variables.</p> | <p>Patterning Unit 2: Variables and Equations 6: Investigating Equality in Equations 7: Representing Generalizations in Patterns 10: Consolidation of Variables and Equations</p> <p>Measurement Unit 1A: Perimeter, Area, Volume, and Capacity 1: Determining the Perimeter of Polygons 2: Determining the Area of Rectangles</p> | <p>Big Idea: Patterns and relations can be represented with symbols, equations, and expressions. Understanding equality and inequality, building on generalized properties of numbers and operations</p> <ul style="list-style-type: none"> - Expresses a one-step mathematical problem as an equation using a symbol or letter to represent an unknown number (e.g., Sena had some tokens and used four. She has seven left: $\square - 4 = 7$). - Uses arithmetic properties to investigate and transform one-step addition and multiplication equations (e.g., $5 + 4 = 9$ and $5 + a = 9$ have the same structure and can be rearranged in similar ways to maintain equality: $4 + 5 = 9$ and $a + 5 = 9$). - Uses arithmetic properties to investigate and transform one-step subtraction and division equations (e.g., $12 - 5 = 7$ and $12 - b = 7$ have the same structure and can be rearranged in similar ways to maintain equality: $12 - 7 = 5$ and $12 - 7 = b$). <p>Using variables, algebraic expressions, and equations to represent mathematical relations</p> <ul style="list-style-type: none"> - Understands an unknown quantity (i.e., variable) may be represented by a symbol or letter (e.g., $13 - \square = 8$; $4n = 12$). - Flexibly uses symbols and letters to represent unknown quantities in equations (e.g., knows that $4 + \square = 7$; $4 + x = 7$; and $4 + y = 7$ all represent the same equation with \square, x, and y representing the same value). - Interprets and writes algebraic expressions (e.g., $2n$ means two times a number; subtracting a number from 7 can be written as $7 - n$). - Understands a variable as a changing quantity (e.g., $5s$, where s can be any value). - Uses expressions and equations with variables to represent generalized relations and algorithms (e.g., $P = 2l + 2w$). <p>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Understanding relationships among</p> |
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| | | measured units - Develops and generalizes strategies to compute area and perimeter of rectangles. |
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Correlation of Saskatchewan Program of Studies with Mathology Grade 6 (Shape and Space)

| Curriculum Expectations | Grade 6 Mathology.ca | Pearson Canada Grades 4-6 Mathematics Learning Progression |
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| Goals: Spatial Sense, Number Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| <p>Outcomes SS6.1 Demonstrate understanding of angles including:</p> <ul style="list-style-type: none"> • identifying examples • classifying angles • estimating the measure • determining angle measures in degrees • drawing angles • applying angle relationships in triangles and quadrilaterals. | <p>Geometry Unit 1A: 2-D Shapes and Angles 1: Classifying and Measuring Angles 2: Measuring and Constructing Angles 3: Classifying Triangles 4: Identifying and Constructing Triangles 6: Consolidation of 2-D Shapes and Angles</p> | <p>Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared. Understanding attributes that can be measured, compared, and ordered - Understands angle as an attribute that can be measured and compared. - Understands angle is additive (e.g., 90° can be visualized as nine sectors that are 10° each). Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Selecting and using units to estimate, measure, construct, and make comparisons - Measures, constructs, and estimates angles using degrees. Understanding relationships among measured units - Investigates and generalizes sum of interior angles of triangles (i.e., sum of angles of a triangle is 180°). Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes. Investigating geometric attributes and properties of 2-D shapes and 3-D solids - Draws, compares, and classifies angles (i.e., right, acute, obtuse, straight, reflex).</p> |
| <p>SS6.2 Extend and apply understanding of perimeter of polygons, area of rectangles, and volume of right rectangular prisms (concretely, pictorially, and symbolically) including:</p> <ul style="list-style-type: none"> • relating area to volume • comparing perimeter and area • comparing area and volume | <p>Measurement Unit 1A: Perimeter, Area, Volume, and Capacity 1: Determining the Perimeter of Polygons 2: Determining the Area of Rectangles</p> | <p>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Selecting and using units to estimate, measure, construct, and make comparisons - Measures, constructs, and estimates perimeter and area of regular and</p> |

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| <ul style="list-style-type: none"> • generalizing strategies and formulae • analyzing the effect of orientation • solving situational questions. | <p>4: Determining the Volume of Right Rectangular Prisms</p> <p>6: Consolidation of Perimeter, Area, Volume, and Capacity</p> | <p>irregular polygons.</p> <p>Understanding relationships among measured units</p> <ul style="list-style-type: none"> - Develops and generalizes strategies to compute area and perimeter of rectangles. - Develops and generalizes strategies and formulas to compute volumes of right rectangular prisms. |
| <p>SS6.3 Demonstrate understanding of regular and irregular polygons including:</p> <ul style="list-style-type: none"> • classifying types of triangles • comparing side lengths • comparing angle measures • differentiating between regular and irregular polygons • analyzing for congruence. | <p>Geometry Unit 1A: 2-D Shapes and Angles</p> <p>3: Classifying Triangles</p> <p>4: Identifying and Constructing Triangles</p> <p>5: Investigating Polygons</p> <p>6: Consolidation of 2-D Shapes and Angles</p> | <p>Big Ideas: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.</p> <p>Investigating geometric attributes and properties of 2-D shapes and 3-D solids</p> <ul style="list-style-type: none"> - Sorts, describes, constructs, and classifies polygons based on side attributes (e.g., parallel, perpendicular, regular/irregular). - Sorts, describes, and classifies 2-D shapes based on their geometric properties (e.g., side length, angles, diagonals). - Classifies 2-D shapes within a hierarchy based on their properties (e.g., rectangles are a subset of parallelograms). |
| <p>Goals: Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour</p> | | |
| <p>Outcomes</p> <p>SS6.4 Demonstrate understanding of the first quadrant of the Cartesian plane and ordered pairs with whole number coordinates.</p> | <p>Geometry Unit 2A: Transformations</p> <p>10: Plotting and Reading Coordinates</p> <p>12: Consolidation of Transformations</p> | <p>Big Idea: Objects can be located in space and viewed from multiple perspectives.</p> <p>Locating and mapping objects in space</p> <ul style="list-style-type: none"> - Develops understanding of a Cartesian plane as a coordinate system using perpendicular axes. - Plots and locates points on a Cartesian plane, and relates the location to the two axes. (Limited to the first quadrant.) |
| <p>SS6.5 Demonstrate understanding of single, and combinations of, transformations of 2-D shapes (with and without the use of technology) including:</p> <ul style="list-style-type: none"> • identifying • describing • performing. | <p>Geometry Unit 2A: Transformations</p> <p>7: Rotating 2-D Shapes on a Grid</p> <p>8: Single Transformations on a Grid</p> <p>9: Combining Transformations on a Grid</p> <p>10: Plotting and Reading Coordinates</p> <p>11: Transformations on a Coordinate Plane</p> | <p>Big Ideas: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.</p> <p>Exploring 2-D shapes and 3-D solids by applying and visualizing transformations</p> <ul style="list-style-type: none"> - Identifies, describes, and performs single transformations (i.e., translation, reflection, rotation) on 2-D shapes. - Identifies, describes, applies, and creates a combination of successive transformations on 2-D shapes. |

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| | 12: Consolidation of Transformations | |
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Correlation of Saskatchewan Program of Studies with Mathology Grade 6 (Statistics and Probability)

| Curriculum Expectations | Grade 6 Mathology.ca | Pearson Canada Grades 4-6 Mathematics Learning Progression |
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| Goals: Spatial Sense, Number Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| <p>Outcomes SP6.1 Extend understanding of data analysis to include:</p> <ul style="list-style-type: none"> • line graphs • graphs of discrete data • data collection through questionnaires, experiments, databases, and electronic media • interpolation and extrapolation. | <p>Data Management Unit 1: Data Management 1: Exploring Line Graphs 3: Collecting and Organizing Data 4: Interpreting Graphs to Solve Problems 6: Consolidation of Data Management</p> | <p>Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness. Collecting data and organizing it into categories - Constructs data organizers to support data collection (e.g., creates tally chart or line plot on a grid to collect survey data). - Differentiates between discrete (e.g., votes) and continuous (e.g., height) data. - Selects and justifies an appropriate method of data collection (e.g., experiment, observation, survey) based on question posed. Creating graphical displays of collected data - Represents data graphically using many-to-one correspondence with appropriate scales and intervals (e.g., each symbol on pictograph represents 10 people). - Chooses and justifies appropriate visual representations for displaying discrete (e.g., bar graph) and continuous (e.g., line graph) data. Reading and interpreting data displays and analyzing variability - Reads and interprets data displays using many-to-one correspondence. Drawing conclusions by making inferences and justifying decisions based on data collected - Draws conclusions on data presented. - Interprets the results of data presented graphically from primary (e.g., class</p> |

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| | | survey) and secondary (e.g., online news report) sources. |
| Goals: Number Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| <p>Outcomes</p> <p>SP6.2 Demonstrate understanding of probability by:</p> <ul style="list-style-type: none"> determining sample space differentiating between experimental and theoretical probability determining the theoretical probability determining the experimental probability comparing experimental and theoretical probabilities. | <p>Data Management Unit 2: Probability</p> <p>7: Exploring Theoretical Probability</p> <p>8: Identifying Possible Outcomes</p> <p>9: Conducting Experiments</p> <p>10: Consolidation of Probability</p> | <p>Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphical displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness. Collecting data and organizing it into categories</p> <ul style="list-style-type: none"> Records the results of multiple trials of simple events. <p>Using the language and tools of chance to describe and predict events</p> <ul style="list-style-type: none"> Locates the likelihood of outcomes on a vocabulary-based probability continuum (e.g., impossible, unlikely, likely, certain). Distinguishes between equally likely events (e.g., heads or tails on a fair coin) unequally likely events (e.g., spinner with differently sized sections). Identifies the sample space of independent events in an experiment (e.g., flipping a cup, drawing a coloured cube from a bag). Investigates and calculates the experimental probability (i.e., relative frequency) of simple events (e.g., 3 heads in 5 coins tosses is $\frac{3}{5}$). |