**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** |
| **Goals:** Number Sense, Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour | | |
| **Outcomes**  N6.1 Demonstrate understanding of place value including:   * greater than one million * less than one thousandth   with and without technology. | **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  **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  **Number Unit 3: Fractions, Decimals, Percents, and Integers**  15: Representing Decimals  16: Comparing and Ordering Decimals  21: Consolidation of Fractions, Decimals, Percents and Integers  **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  30: Consolidation of Operations Fractions and Decimals | **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 three hundred fifty-eight; 1000 + 300 + 50 + 8).  **-** 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). **Big Idea: Quantities and numbers can be operated on to determine how many and how much. Developing conceptual meaning of operations** - Extends whole number computation models to larger numbers. - Demonstrates an understanding of decimal number computation through modelling and flexible strategies. **Developing fluency of operations** - 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. |
| N6.2 Demonstrate understanding of factors and multiples (concretely, pictorially, and symbolically) including:   * determining factors and multiples of numbers less than 100 * relating factors and multiples to multiplication and division * determining and relating prime and composite numbers. | **Number Unit 1: Number Relationships and Place Value**  3: Identifying Factors and Multiples 4: Identifying Prime and Composite Numbers  5: Consolidation of Number Relationships and Place Value | **Big Idea: Numbers are related in many ways. Decomposing and composing numbers to investigate equivalencies** - Decomposes numbers into prime factors. **Big Idea: Quantities and numbers can be operated on to determine how many and how much.**  **Investigating number and arithmetic properties** - 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). **Developing fluency of operations** - 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. |
| N6.5Demonstrate 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 to investigate equivalencies** - Models equivalent forms of improper fractions and mixed numbers using flexible strategies. |
| N6.8Demonstrate an understanding of ratio, concretely, pictorially, and symbolically. | **Number Unit 2: Fluency with Whole Numbers**  11: Exploring Ratios  12: Consolidation of Fluency with Whole Numbers | **Big Idea: Numbers are related in many ways. Using ratios, rates, proportions, and percents creates a relationship between quantities** - Understands the concept of ratio as a relationship between two quantities (e.g., 3 wins to 2 losses). |
| N6.9 Research and present how First Nations and Metis peoples, past and present, envision, represent, and use quantity in their lifestyles and worldviews. |  |  |



**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** |
| **Goals:** Number Sense, Spatial Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| **Outcomes**  P6.1 Extend understanding of patterns and relationships in tables of values and graphs. | **Patterning Unit 1: Patterning** 1: Investigating Patterns and Relationships in Tables and Graphs 2: Solving Problems  4: Consolidation of Patterning | **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). |
| P6.2 Extend understanding of preservation of equality concretely, pictorially, physically, and symbolically. | **Patterning Unit 2: Variables and Equations** 6: Investigating Equality in Equations  10: Consolidation of Variables and Equations | **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., 5*n* – 4 = 3*n*; 3*r* = 2 + *s*).  - Investigates and models the meaning of preservation of equality of single variable equations (e.g., 3*x* = 12). |
| P6.3 Extend understanding of patterns and relationships by using expressions and equations involving variables. | **Patterning Unit 2: Variables and Equations** 6: Investigating Equality in Equations  7: Representing Generalizations in Patterns  10: Consolidation of Variables and Equations  **Measurement Unit 1A: Perimeter, Area, Volume, and Capacity** 1: Determining the Perimeter of Polygons 2: Determining the Area of Rectangles | **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** - 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: □ – 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*). **Using variables, algebraic expressions, and equations to represent mathematical relations**  - Understands an unknown quantity (i.e., variable) may be represented by a symbol or letter (e.g., 13 – □ = 8; 4*n* = 12). - Flexibly uses symbols and letters to represent unknown quantities in equations (e.g., knows that 4 + □ = 7; 4 + *x* = 7; and 4 + *y* = 7 all represent the same equation with □, *x*, and *y* representing the same value).  - Interprets and writes algebraic expressions (e.g., 2*n* 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., 5*s*, where *s* can be any value). - Uses expressions and equations with variables to represent generalized relations and algorithms  (e.g., *P* = 2*l* + 2w). **Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Understanding relationships among measured units** - Develops and generalizes strategies to compute area and perimeter of rectangles. |

**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** | |
| **Goals:** Spatial Sense, Number Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| **Outcomes**  SS6.1 Demonstrate understanding of angles including:   * identifying examples * classifying angles * estimating the measure * determining angle measures in degrees * drawing angles * applying angle relationships in triangles and quadrilaterals. | **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 | **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). |
| SS6.2 Extend and apply understanding of perimeter of polygons, area of rectangles, and volume of right rectangular prisms (concretely, pictorially, and symbolically) including:   * relating area to volume * comparing perimeter and area * comparing area and volume * generalizing strategies and formulae * analyzing the effect of orientation * solving situational questions. | **Measurement Unit 1A: Perimeter, Area, Volume, and Capacity** 1: Determining the Perimeter of Polygons 2: Determining the Area of Rectangles 4: Determining the Volume of Right Rectangular Prisms 6: Consolidation of Perimeter, Area, Volume, and Capacity | **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 irregular polygons. **Understanding relationships among measured units** - Develops and generalizes strategies to compute area and perimeter of rectangles. - Develops and generalizes strategies and formulas to compute volumes of right rectangular prisms. |
| SS6.3 Demonstrate understanding of regular and irregular polygons including:   * classifying types of triangles * comparing side lengths * comparing angle measures * differentiating between regular and irregular polygons * analyzing for congruence. | **Geometry Unit 1A: 2-D Shapes and Angles** 3: Classifying Triangles  4: Identifying and Constructing Triangles  5: Investigating Polygons  6: Consolidation of 2-D Shapes and Angles | **Big Ideas: 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** - 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). |
| **Goals:** Logical Thinking, Spatial Sense, Mathematics as a Human Endeavour | | |
| **Outcomes**  SS6.4 Demonstrate understanding of the first quadrant of the Cartesian plane and ordered pairs with whole number coordinates. | **Geometry Unit 2A: Transformations**  10: Plotting and Reading Coordinates  12: Consolidation of Transformations | **Big Idea: Objects can be located in space and viewed from multiple perspectives. Locating and mapping objects in space**  - 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.) |
| SS6.5 Demonstrate understanding of single, and combinations of, transformations of 2-D shapes (with and without the use of technology) including:   * identifying * describing * performing. | **Geometry Unit 2A: Transformations**  7: Rotating 2-D Shapes on a Grid 8: Single Transformations on a Grid 9: Combining Transformations on a Grid  10: Plotting and Reading Coordinates  11: Transformations on a Coordinate Plane  12: Consolidation of Transformations | **Big Ideas: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change. Exploring 2-D shapes and 3-D solids by applying and visualizing transformations** - 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. |

A close up of a sign

Description automatically generated**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** |
| **Goals:** Spatial Sense, Number Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| **Outcomes**  SP6.1 Extend understanding of data analysis to include:   * line graphs * graphs of discrete data * data collection through questionnaires, experiments, databases, and electronic media * interpolation and extrapolation. | **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 | **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 survey) and secondary (e.g., online news report) sources. |
| **Goals:** Number Sense, Logical Thinking, Mathematics as a Human Endeavour | | |
| **Outcomes**  SP6.2 Demonstrate understanding of probability by:   * determining sample space * differentiating between experimental and theoretical probability * determining the theoretical probability * determining the experimental probability * comparing experimental and theoretical probabilities. | **Data Management Unit 2: Probability**  7: Exploring Theoretical Probability 8: Identifying Possible Outcomes 9: Conducting Experiments  10: Consolidation of Probability | **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** - Records the results of multiple trials of simple events.  **Using the language and tools of chance to describe and predict events** - 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 ). |