



Correlation of the Saskatchewan Mathematics Curriculum with Mathology Grade 7 (Number)

	Grade 7 Mathology.ca	Pearson Canada Grades 4–9 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Mathematical Attitude, Spatial Sense		
<p>Outcomes N7.1 Demonstrate an understanding of division through the development and application of divisibility strategies for 2, 3, 4, 5, 6, 8, 9 or 10, and through an analysis of division involving zero.</p>	<p>Number Unit 1: Number Relationships 1: Developing Divisibility Rules for 2, 4, 5, 8, and 10 2: Developing Divisibility Rules for 3, 6, and 9 3. Relating Factors, Multiples, and Divisibility</p>	<p>Big Idea: Quantities and numbers can be operated on to determine how many and how much. Investigating number and arithmetic properties</p> <ul style="list-style-type: none"> - Examines and classifies whole numbers based on their properties (e.g., even/odd; prime; composite; divisible by 2, 5, 10). - Uses reasoning and knowledge of factors to examine divisibility of numbers (by 4, 8, 3, 6, and 9).
<p>N7.2 Expand and demonstrate an understanding of the addition, subtraction, multiplication and division of decimals to greater numbers of decimal places, and the order of operations</p>	<p>Number Unit 4: Operations with Decimals, Percents, and Fractions 16: Multiplying Decimals 17: Dividing Decimals 18: Applying the Order of Operations with Decimals</p> <p>Number Unit 5: Financial Literacy 22: Calculating Sales Taxes and Tips 23: Calculating Sales Taxes and Discounts</p>	<p>Big Idea: Quantities and numbers can be operated on to determine how many and how much. Developing conceptual meaning of operations</p> <ul style="list-style-type: none"> - 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 decimal number computation using efficient strategies. <p>Investigating number and arithmetic properties</p> <ul style="list-style-type: none"> - Evaluates equations with brackets using order of operations.
<p>N7.3 Demonstrate an understanding of the relationships between positive decimals, positive fractions (including mixed numbers, proper fractions and improper fractions), and whole numbers.</p>	<p>Number Unit 3: Fractions, Decimals, and Percents 12: Converting Between Fractions and Decimals 13: Comparing and Ordering Fractions and Decimals</p>	<p>Big Idea: Numbers are related in many ways. Decomposing and composing numbers to investigate equivalencies</p> <ul style="list-style-type: none"> - Understands that all fractions are equivalent to either terminating or repeating decimals. - Models and explains the relationship between a fraction and its equivalent decimal form. <p>Comparing and ordering quantities (multitude or magnitude)</p> <ul style="list-style-type: none"> - Compares, orders, and locates positive rational numbers using flexible strategies.

<p>N7.4 Expand and demonstrate an understanding of percent to include fractional percents between 1% and 100%.</p>	<p>Number Unit 3: Fractions, Decimals, and Percents 14: Relating Fractions, Decimals, and Percents 15: Representing Fractional Percents</p> <p>Number Unit 4: Operations with Decimals, Percents, and Fractions 19: Working with Percents</p> <p>Number Unit 5: Financial Literacy 22: Calculating Sales Taxes and Tips 23: Calculating Sales Taxes and Discounts</p>	<p>Big Idea: Numbers are related in many ways. Using ratios, rates, proportions, and percents creates a relationship between quantities</p> <ul style="list-style-type: none"> - Understands and applies the concept of percentage as a rate per hundred (e.g., calculating sales tax, tips, or discounts).
<p>N7.5 Develop and demonstrate an understanding of adding and subtracting positive fractions and mixed numbers, with like and unlike denominators, concretely, pictorially and symbolically (limited to positive sums and differences).</p>	<p>Number Unit 4: Operations with Decimals, Percents, and Fractions 20: Adding Fractions and Mixed Numbers 21: Subtracting Fractions and Mixed Numbers</p>	<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"> - Models and demonstrates an understanding of fraction addition and subtraction. <p>Developing fluency of operations</p> <ul style="list-style-type: none"> - Solves fraction addition and subtraction using efficient strategies.
<p>N7.6 Demonstrate an understanding of addition and subtraction of integers, concretely, pictorially, and symbolically.</p>	<p>Number Unit 2: Fluency with Integers 5: Representing Integers 6: Adding Integers 7: Subtracting Integers 8: Solving Problems Involving Integers</p>	<p>Big Idea: The set of real numbers is infinite. Extending whole number understanding to the set of real numbers</p> <ul style="list-style-type: none"> - Understands that a positive integer and its negative opposite are the same distance from zero (e.g., both 5 and -5 are five units from zero on a number line). <p>Big Idea: Numbers are related in many ways. Comparing and ordering quantities (multitude or magnitude)</p> <ul style="list-style-type: none"> - Compares, orders, and locates integers. <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"> - Models and demonstrates an understanding of integer addition and subtraction.



Correlation of the Saskatchewan Mathematics Curriculum with Mathology Grade 7 (Patterns and Relations)

	Grade 7 Mathology.ca	Pearson Canada Grades 4–9 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Mathematical Attitude, Spatial Sense		
Outcomes P7.1 Demonstrate an understanding of the relationships between oral and written patterns, graphs and linear relations.	Patterning Unit 1: Linear Patterns and Equations 1: Representing Patterns 2: Writing an Expression to Describe a Linear Pattern 6: Writing and Solving Patterns Involving Linear Relations	Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Representing patterns, relations, and functions <ul style="list-style-type: none"> - Matches different representations of the same linear relation (e.g., graph, equation, table of values). - Represents a mathematical context or problem with expressions and equations using variables to represent unknowns. - Generates ordered pairs for a linear relation and plots the coordinates on a graph. (Limited to integer values on four quadrants.) - Differentiates between linear and non-linear relations by their graphical representation. Using variables, algebraic expressions, and equations to represent mathematical relations <ul style="list-style-type: none"> - Identifies and describes the meaning of parts of an equation using mathematical terms (e.g., sum, coefficient, factor, variable, constant). - Writes expressions to describe patterns and contexts representing linear relations (e.g., 5, 8, 11, 14 can be represented as $3n + 2$).

<p>P7.2 Demonstrate an understanding of equations and expressions by:</p> <ul style="list-style-type: none"> • Distinguishing between equations and expressions • Evaluating expressions • Verifying solutions to equations. 	<p>Patterning Unit 1: Linear Patterns and Equations 3: Evaluating Expressions and Writing Equations</p>	<p>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Representing patterns, relations, and functions</p> <ul style="list-style-type: none"> - Matches different representations of the same linear relation (e.g., graph, equation, table of values) <p>Big Idea: Patterns and relations can be represented with symbols, equations, and expressions. Using variables, algebraic expressions, and equations to represent mathematical relations</p> <ul style="list-style-type: none"> - Evaluates algebraic expressions, including formulas, given specific values for the variables (e.g., evaluate $3r - 12$, when $r = 3$; $\frac{1}{2}bh$, when base is 12 cm and height is 5 cm). - Writes expressions to describe patterns and contexts representing linear relations (e.g., 5, 8, 11, 14 can be represented as $3n + 2$).
<p>P7.3 Demonstrate an understanding of one-step and two-step linear equations of the form $\frac{ax}{b} + c = d$ (where $a, b, c,$ and d are whole numbers, $c \leq d$ and $b \neq 0$) by modelling the solution of the equations concretely, pictorially, physically, and symbolically and explaining the solution in terms of the preservation of equality.</p>	<p>Patterning Unit 1: Linear Patterns and Equations 4: Modelling and Solving One-Step Equations 5: Modelling and Solving Multi-Step Equations 6: Writing and Solving Problems Involving Linear Relations</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"> - Investigates and models the meaning of preservation of equality of single variable equations (e.g., $3x = 12$). - Applies arithmetic properties (e.g., distributive, commutative, identities) to identify, transform, and generate equivalent numeric expressions (e.g., $3(2 + 5) = (2 + 5) + (2 + 5) + (2 + 5)$). - Models the preservation of equality to solve equations involving integer coefficients (e.g., $-4m + 16 = -12$). <p>Using variables, algebraic expressions, and equations to represent mathematical relations</p> <ul style="list-style-type: none"> - Evaluates algebraic expressions, including formulas, given specific values for the variables (e.g., evaluate $3r - 12$, when $r = 3$; $\frac{1}{2}bh$, when base is 12 cm and height is 5 cm).

		<ul style="list-style-type: none"> - Writes expressions to describe patterns and contexts representing linear relations (e.g., 5, 8, 11, 14 can be represented as $3n + 2$). <p>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.</p> <p>Representing patterns, relations, and functions</p> <ul style="list-style-type: none"> - Represents a mathematical context or problem with expressions and equations using variables to represent unknowns. - Models and solves problems with integers using linear equations in different forms (e.g., $ax = b$; $ax + b = c$; $a(x + b) = c$).
<p>P7.4 Demonstrate an understanding of linear equations of the form $x + a = b$ (where a and b are integers) by modelling problems as a linear equation and solving the problems concretely, pictorially, and symbolically .</p>	<p>Patterning Unit 1: Linear Patterns and Equations</p> <p>4: Modelling and Solving One-Step Equations</p>	<p>Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.</p> <p>Understanding equality and inequality, building on generalized properties of numbers and operations.</p> <ul style="list-style-type: none"> - Investigates and models the meaning of preservation of equality of single variable equations (e.g., $3x = 12$). - Applies arithmetic properties (e.g., distributive, commutative, identities) to identify, transform, and generate equivalent numeric expressions (e.g., $3(2 + 5) = (2 + 5) + (2 + 5) + (2 + 5)$). - Models the preservation of equality to solve equations involving integer coefficients (e.g., $-4m + 16 = -12$). <p>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.</p> <p>Representing patterns, relations, and functions</p> <ul style="list-style-type: none"> - Represents a mathematical context or problem with expressions and equations using variables to represent unknowns. - Models and solves problems with integers using linear equations in different forms (e.g., $ax = b$; $ax + b = c$; $a(x + b) = c$).



Correlation of the Saskatchewan Mathematics Curriculum with Mathology Grade 7 (Shape and Space)

	Grade 7 Mathology.ca	Pearson Canada Grades 4–9 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Mathematical Attitude, Spatial Sense		
Outcomes SS7.1 Demonstrate an understanding of circles including circumference and central angles.	Measurement Unit 1: 2-D Shapes and 3-D Solids 1: Exploring Circles 2: Calculating Circumference 3: Exploring Central 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, or ordered - Understands circumference as the measure around a circle. 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 - Relates angle measures to arcs and sectors of a circle. - Constructs circles based on radius and diameter measures. Understanding relationships among measured units - Develops and generalizes strategies to compute the circumference and area of circles.
SS7.2 Develop and apply a formulas for determining the area of: <ul style="list-style-type: none"> • triangles • parallelograms • circles. 	Measurement Unit 1: 2-D Shapes and 3-D Solids 4: Determining the Area of Triangles and Parallelograms 5: Estimating and Determining the Area of a Circle	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 the circumference and area of circles. Big Idea: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes. Investigating 2-D shapes, 3-D solids, and their attributes through composition and decomposition

		<ul style="list-style-type: none"> - Constructs and decomposes polygons into shapes with known areas (e.g., triangles, rectangles). <p>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons.</p> <p>Understanding relationships among measured units</p> <ul style="list-style-type: none"> - Develops and generalizes strategies to compute area of triangles, quadrilaterals, and other polygons (e.g., decomposing a parallelogram and rearranging to form a rectangle).
SS7.3 Demonstrate an understanding of 2-D relationships involving lines and angles.	<p>Measurement Unit 1: 2-D Shapes and 3-D Solids</p> <p>6: Constructing Lines 7: Constructing Bisectors</p>	<p>Big Idea: 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"> - Identifies and draws parallel, intersecting, and perpendicular lines. - Performs geometric constructions to gain insight into properties of lines, angles, and polygons (e.g., constructs perpendicular bisectors, 45° angles, angle bisectors, equilateral triangle).
SS7.4 Demonstrate an understanding of the Cartesian plane and ordered pairs with integral coordinates.	<p>Geometry Unit 1: Transformations on a Cartesian Plane</p> <p>1: Exploring the Cartesian Plane</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"> - Identifies, locates, and plots points, polygon vertices, and lines on a Cartesian plane in all four quadrants. (Limited to integers.)
SS7.5 Expand and demonstrate an understanding of transformations (translations, rotations, and reflections) of 2-D shapes in all four quadrants of the Cartesian plane.	<p>Geometry Unit 1: Transformations on a Cartesian Plane</p> <p>2: Translating 2-D Shapes on a Cartesian Plane 3: Reflecting and Rotating 2-D Shapes on a Cartesian Plane 4: Combining 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"> - Analyzes and predicts the location of 2-D shapes under transformation on a Cartesian plane. - Analyzes and locates points, lines, and shapes on a Cartesian plane after successive transformations.



Correlation of the Saskatchewan Mathematics Curriculum with Mathology Grade 7 (Statistics and Probability)

	Grade 7 Mathology.ca	Pearson Canada Grades 4–9 Mathematics Learning Progression
Goals Number Sense, Logical Thinking, Mathematical Attitude, Spatial Sense		
Outcomes SP7.1 Demonstrate an understanding of the measures of central tendency and range for sets of data.	Data Management Unit 1: Data Management 1: Exploring Measures of Data 2: Determining Mean and Mode 3: Determining Median and Range 4: Comparing Measures of Central Tendency 5: Exploring the Impact of Outliers on Mean, Median, and Mode	Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphic displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness. Creating graphical displays of collected data <ul style="list-style-type: none"> - Creates charts and graphs with appropriate titles and labels to represent data collected. - Represents data graphically using many-to-one correspondence with appropriate scales and intervals. Reading and interpreting data displays and analyzing variability <ul style="list-style-type: none"> - Reads and interprets data displays using many-to-one correspondence. - Visualizes and determines the mean of a data set. - Visualizes and determines the median value as a middle measure representing a whole data set. - Understands and describes the differences between the central tendency values (i.e., mode, median, mean) and explores which measure is most appropriate for the data collected. - Explains the effect of removing or changing values (including outliers) on measures of central tendency. Using the language and tools of chance to describe and predict events <ul style="list-style-type: none"> - Describes data using frequency counts (e.g., 5 people chose peppermint) and modal value (e.g., dogs are the most common pets).

<p>SP7.2 Demonstrate an understanding of circle graphs.</p>	<p>Data Management Unit 1: Data Management 6: Exploring Circle Graphs 7: Constructing Circle Graphs</p>	<p>Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphic displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness. Creating graphical displays of collected data - Creates graphical representations to illustrate parts of a whole (e.g., circle graph) Drawing conclusions by making inferences and justifying decisions based on data collected - Draw conclusions based on data presented.</p>
<p>SP7.3 Demonstrate an understanding of theoretical and experimental probabilities for two independent events where the combined sample space has 36 or fewer elements.</p>	<p>Data Management Unit 2: Probability 8: Writing Experimental Probabilities 9: Identifying and Representing Sample Spaces 10: Exploring Theoretical and Experimental Probability</p>	<p>Big Idea: Formulating questions, collecting data, and consolidating data in visual and graphic displays help us understand, predict, and interpret situations that involve uncertainty, variability, and randomness. Using the language and tools of chance to describe and predict events - Determines the relative frequency of each outcome in an experiment involving two independent events by performing multiple trials. - Determines and represents theoretical probability of outcomes for two independent events (e.g., rolling a die and tossing a coin) using graphical tools (e.g., tree diagram, lists, matrix).</p>