

## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Number)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Develop number sense.		
<p><b>Specific Learning Outcomes</b></p> <p>6.N.1. Demonstrate an understanding of place value for numbers</p> <ul style="list-style-type: none"> <li>• greater than one million</li> <li>• less than one-thousandth</li> </ul>	<p><b>Number Unit 1: Number Relationships and Place Value</b></p> <p>1: Representing Larger Numbers (to 1 000 000 and Beyond)</p> <p>2: Representing Numbers in Different Forms</p> <p>5: Consolidation of Number Relationships and Place Value</p> <p><b>Number Unit 3: Fractions, Decimals, Percents, and Integers</b></p> <p>15: Representing Decimals</p> <p>16: Comparing and Ordering Decimals</p> <p>21: Consolidation of Fractions, Decimals, Percents, and Integers</p>	<p><b>Big Idea: The set of real numbers is infinite.</b></p> <p><b>Extending whole number understanding to the set of real numbers</b></p> <ul style="list-style-type: none"> <li>- Extends whole number understanding to 1 000 000.</li> <li>- Extends decimal number understanding to thousandths.</li> </ul> <p><b>Big Idea: Numbers are related in many ways.</b></p> <p><b>Comparing and ordering quantities (multitude or magnitude)</b></p> <ul style="list-style-type: none"> <li>- Compares, orders, and locates whole numbers based on place-value understanding, and records using <math>&lt;</math>, <math>=</math>, and <math>&gt;</math> symbols.</li> <li>- Compares, orders, and locates decimal numbers using place-value understanding.</li> </ul> <p><b>Decomposing and composing numbers to investigate equivalencies</b></p> <ul style="list-style-type: none"> <li>- Composes and decomposes whole numbers using standard and non-standard partitioning (e.g., 1000 is 10 hundreds or 100 tens).</li> <li>- Composes and decomposes decimal numbers using standard and non-standard partitioning (e.g., 1.6 is 16 tenths or 0.16 tens ).</li> </ul> <p><b>Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.</b></p> <p><b>Unitizing quantities into base-ten units</b></p> <ul style="list-style-type: none"> <li>- Writes and reads whole numbers in multiple forms (e.g., 1358; one thousand three hundred fifty-eight; <math>1000 + 300 + 50 + 8</math>).</li> <li>- Understands that the value of a digit is ten times the value of the same digit one</li> </ul>

		<p>place to the right.</p> <ul style="list-style-type: none"> <li>- Understands that the value of a digit is one-tenth the value of the same digit one place to the left.</li> <li>- Writes and reads decimal numbers in multiple forms (e.g., numerals, number names, expanded form).</li> </ul>
6.N.2. Solve problems involving large numbers, using technology.	<p><b>Number Unit 2: Fluency with Whole Numbers</b></p> <p>6: Solving Problems with Whole Numbers</p> <p>7: Estimating Reasonableness of Solutions</p> <p>9: Mental Math Strategies</p> <p>12: Consolidation of Fluency with Whole Numbers</p>	<p><b>Big Idea: Quantities and numbers can be operated on to determine how many and how much.</b></p> <p><b>Developing conceptual meaning of operations</b></p> <ul style="list-style-type: none"> <li>- Extends whole number computation models to larger numbers</li> </ul> <p><b>Developing fluency of operations</b></p> <ul style="list-style-type: none"> <li>- 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).</li> </ul>
<p>6.N.3. Demonstrate an understanding of factors and multiples by</p> <ul style="list-style-type: none"> <li>• determining multiples and factors of numbers less than 100</li> <li>• identifying prime and composite numbers</li> <li>• solving problems involving factors or multiples</li> </ul>	<p><b>Number Unit 1: Number Relationships and Place Value</b></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><b>Big Idea: Numbers are related in many ways.</b></p> <p><b>Decomposing and composing numbers to investigate equivalencies</b></p> <ul style="list-style-type: none"> <li>- Decomposes numbers into prime factors.</li> </ul> <p><b>Big Idea: Quantities and numbers can be operated on to determine how many and how much.</b></p> <p><b>Investigating number and arithmetic properties</b></p> <ul style="list-style-type: none"> <li>- Determines whether one number is a multiple of any one-digit number.</li> <li>- Examines and classifies whole numbers based on their properties (e.g., even/odd; prime; composite; divisible by 2, 5, and 10).</li> <li>- Generates multiples and factors for numbers using flexible strategies.</li> <li>- Distinguishes between and investigates properties of prime and composite numbers (e.g., prime factorization).</li> </ul> <p><b>Developing fluency of operations</b></p> <ul style="list-style-type: none"> <li>- Fluently recalls multiplication and division facts to 100.</li> </ul>
6.N.4. Relate improper fractions to mixed numbers.	<p><b>Number Unit 3: Fractions, Decimals, Percents, and Integers</b></p> <p>13: Representing Fractions</p> <p>14: Comparing and Ordering Fractions</p>	<p><b>Big Idea: Numbers are related in many ways.</b></p> <p><b>Comparing and ordering quantities (multitude or magnitude)</b></p> <ul style="list-style-type: none"> <li>- Compares, orders, and locates fractions using flexible strategies (e.g., comparing models; creating common denominators</li> </ul>

	21: Consolidation of Fractions, Decimals, Percents, and Integers	or numerators). <b>Estimating quantities and numbers</b> - Estimates the size and magnitude of fractions by comparing to benchmarks. <b>Decomposing and composing numbers to investigate equivalencies</b> - Models equivalent forms of improper fractions and mixed numbers using flexible strategies.
6.N.5. Demonstrate an understanding of ratio, concretely, pictorially, and symbolically.	<b>Number Unit 2: Fluency with Whole Numbers</b> 11: Exploring Ratios 12: Consolidation of Fluency with Whole Numbers	<b>Big Idea: Numbers are related in many ways.</b> <b>Using ratios, rates, proportions, and percents creates a relationship between quantities</b> - Understands the concept of ratio as a relationship between two quantities (e.g., 3 wins to 2 losses).
6.N.6. Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially, and symbolically.	<b>Number Unit 3: Fractions, Decimals, Percents, and Integers</b> 18: Relating Fractions, Decimals, and Percents 21: Consolidation of Fractions, Decimals, Percents, and Integers	<b>Big Idea: Numbers are related in many ways.</b> <b>Decomposing and composing numbers to investigate equivalencies</b> - Models and explains the relationships among fractions, decimals, and percents. - Translates flexibly between representations.
6.N.7. Demonstrate an understanding of integers, concretely, pictorially, and symbolically.	<b>Number Unit 3: Fractions, Decimals, Percents, and Integers</b> 19: Representing Integers 20: Comparing and Ordering Integers 21: Consolidation of Fractions, Decimals, Percents, and Integers	<b>Big Idea: The set of real numbers is infinite</b> <b>Extending whole number understanding to the set of real numbers</b> - Extends whole number understanding to negative numbers.
6.N.8. Demonstrate an understanding of multiplication and division of decimals (involving 1-digit whole-number multipliers, 1-digit natural number divisors, and multipliers and divisors that are multiples of 10), concretely, pictorially, and symbolically, by <ul style="list-style-type: none"> <li>• using personal strategies</li> <li>• using the standard algorithms</li> <li>• using estimation</li> <li>• solving problems</li> </ul>	<b>Number Unit 4: Operations with Fractions, Decimals, and Percents</b> 22: Multiplying Decimals by 1-Digit Numbers 24: Dividing Decimals by 1-Digit Numbers 30: Consolidation of Operations with Fractions, Decimals, and Percents	<b>Big Idea: Quantities and numbers can be operated on to determine how many and how much.</b> <b>Developing conceptual meaning of operations</b> - Demonstrates an understanding of decimal number computation through modelling and flexible strategies. <b>Developing fluency of operations</b> - Solves decimal number computation using efficient strategies.

<p>6.N.9. Explain and apply the order of operations, excluding exponents (limited to whole numbers).</p>	<p><b>Number Unit 2: Fluency with Whole Numbers</b>        8: The Order of Operations        12: Consolidation of Fluency with Whole Numbers</p>	<p><b>Big Idea: Quantities and numbers can be operated on to determine how many and how much.</b>  <b>Investigating number and arithmetic properties</b>        - Applies order of operations for whole numbers and explains the effect when order is not followed.</p>
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## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Patterns and Relations: Patterns)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Use patterns to describe the world and solve problems.		
<b>Specific Learning Outcomes</b> 6.PR.1. Demonstrate an understanding of the relationships within tables of values to solve problems.	<b>Patterning Unit 1: Patterning</b> 1: Investigating Patterns and Relationships in Tables and Graphs 2: Solving Problems 4: Consolidation of Patterning	<b>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.</b> <b>Representing patterns, relations, and functions</b> <ul style="list-style-type: none"> <li>- Represents a numeric or shape pattern using a table of values by pairing the term value with a term number.</li> <li>- Represents a mathematical context or problem with expressions and equations using variables to represent unknowns.</li> </ul> <b>Generalizing and analyzing patterns, relations, and functions</b> <ul style="list-style-type: none"> <li>- 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).</li> <li>- Describes numeric and shape patterns using words and numbers.</li> <li>- Predicts the value of a given element in a numeric or shape pattern using pattern rules.</li> <li>- Describes the relationship between two numeric patterns (e.g., for every 4 steps, she travels 3 metres).</li> </ul>
6.PR.2 Represent and describe patterns and relationships using graphs and tables.	<b>Patterning Unit 1: Patterning</b> 1: Investigating Patterns and Relationships in Tables and Graphs 2: Solving Problems 4: Consolidation of Patterning	<b>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically.</b> <b>Representing patterns, relations, and functions</b> <ul style="list-style-type: none"> <li>- Represents a numeric or shape pattern using a table of values by pairing the term value with a term number.</li> <li>- Represents a mathematical context or problem with expressions and equations using variables to represent unknowns.</li> </ul> <b>Generalizing and analyzing patterns, relations, and functions</b>

		<ul style="list-style-type: none"><li>- 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).</li><li>- Describes numeric and shape patterns using words and numbers.</li><li>- Predicts the value of a given element in a numeric or shape pattern using pattern rules.</li><li>- Describes the relationship between two numeric patterns (e.g., for every 4 steps, she travels 3 metres).</li></ul>
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## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Patterns and Relations: Variables and Equations)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Represent algebraic expressions in multiple ways.		
<p><b>Specific Learning Outcomes</b> 6.PR.3. Represent generalizations arising from number relationships using equations with letter variables.</p>	<p><b>Patterning Unit 2: Variables and Equations</b> 6: Investigating Equality in Equations 7: Representing Generalizations in Patterns 10: Consolidation of Variables and Equations</p> <p><b>Measurement Unit 1A: Perimeter, Area, Volume, and Capacity</b> 1: Determining the Perimeter of Polygons 2: Determining the Area of Rectangles</p>	<p><b>Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.</b> <b>Using variables, algebraic expressions, and equations to represent mathematical relations</b></p> <ul style="list-style-type: none"> <li>- Understands an unknown quantity (i.e., variable) may be represented by a symbol or letter (e.g., <math>13 - \square = 8</math>; <math>4n = 12</math>).</li> <li>- Flexibly uses symbols and letters to represent unknown quantities in equations (e.g., knows that <math>4 + \square = 7</math>; <math>4 + x = 7</math>; and <math>4 + y = 7</math> all represent the same equation with <math>\square</math>, <math>x</math>, and <math>y</math> representing the same value).</li> <li>- Interprets and writes algebraic expressions (e.g., <math>2n</math> means two times a number; subtracting a number from 7 can be written as <math>7 - n</math>).</li> <li>- Understands a variable as a changing quantity (e.g., <math>5s</math>, where <math>s</math> can be any value).</li> <li>- Uses expressions and equations with variables to represent generalized relations and algorithms (e.g., <math>P = 2l + 2w</math>).</li> </ul> <p><b>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Understanding relationships among measured units</b></p> <ul style="list-style-type: none"> <li>- Develops and generalizes strategies to compute area and perimeter of rectangles.</li> </ul>

<p>6.PR.4. Demonstrate and explain the meaning of preservation of equality, concretely, pictorially, and symbolically.</p>	<p><b>Patterning Unit 2: Variables and Equations</b>          6: Investigating Equality in Equations          10: Consolidation of Variables and Equations</p>	<p><b>Big Idea: Patterns and relations can be represented with symbols, equations, and expressions.</b>  <b>Understanding equality and inequality, building on generalized properties of numbers and operations</b></p> <ul style="list-style-type: none"> <li>- Recognizes that an equal sign between two expressions with variables indicates that the expressions are equivalent (e.g., <math>5n - 4 = 3n</math>; <math>3r = 2 + s</math>).</li> <li>- Investigates and models the meaning of preservation of equality of single variable equations (e.g., <math>3x = 12</math>).</li> </ul>
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## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Shape and Space: Measurement)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Use direct or indirect measurement to solve problems.		
<b>Specific Learning Outcomes</b> 6.SS.1. Demonstrate an understanding of angles by <ul style="list-style-type: none"> <li>• identifying examples of angles in the environment</li> <li>• classifying angles according to their measure</li> <li>• estimating the measure of angles using <math>45^\circ</math>, <math>90^\circ</math>, and <math>180^\circ</math> as reference angles</li> <li>• determining angle measures in degrees</li> <li>• drawing and labelling angles when the measure is specified</li> </ul>	<b>Geometry Unit 1A: 2-D Shapes and Angles</b> 1: Classifying and Measuring Angles 2: Measuring and Constructing Angles 6: Consolidation of 2-D Shapes and Angles	<b>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</b> - Understands angle as an attribute that can be measured and compared. - Understands angle is additive (e.g., $90^\circ$ can be visualized as nine sectors that are $10^\circ$ each). <b>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</b> - Measures, constructs, and estimates angles using degrees. <b>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</b> - Draws, compares, and classifies angles (i.e., right, acute, obtuse, straight, reflex).
6.SS.2. Demonstrate that the sum of interior angles is <ul style="list-style-type: none"> <li>• <math>180^\circ</math> in a triangle</li> <li>• <math>360^\circ</math> in a quadrilateral</li> </ul>	<b>Geometry Unit 1A: 2-D Shapes and Angles</b> 3: Classifying Triangles 4: Identifying and Constructing Triangles 6: Consolidation of 2-D Shapes and Angles	<b>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Understanding relationships among measured units</b> - Investigates and generalizes sum of interior angles of triangles (i.e., sum of angles of a triangle is $180^\circ$ ).

<p>6.SS.3. Develop and apply a formula for determining the</p> <ul style="list-style-type: none"> <li>• perimeter of polygons</li> <li>• area of rectangles</li> <li>• volume of right rectangular prisms</li> </ul>	<p><b>Measurement Unit 1A: Perimeter, Area, Volume, and Capacity</b></p> <p>1: Determining the Perimeter of Polygons</p> <p>2: Determining the Area of Rectangles</p> <p>4: Determining the Volume of Right Rectangular Prisms</p> <p>6: Consolidation of Perimeter, Area, Volume, and Capacity</p>	<p><b>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</b></p> <p>- Measures, constructs, and estimates perimeter and area of regular and irregular polygons.</p> <p><b>Understanding relationships among measured units</b></p> <p>- Develops and generalizes strategies to compute area and perimeter of rectangles.</p> <p>- Develops and generalizes strategies and formulas to compute volumes of right rectangular prisms.</p>
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## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Shape and Space: 3-D Objects and 2-D Shapes)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.		
<b>Specific Learning Outcomes</b> 6.SS.4. Construct and compare triangles, including <ul style="list-style-type: none"> <li>• scalene</li> <li>• isosceles</li> <li>• equilateral</li> <li>• right</li> <li>• obtuse</li> <li>• acute</li> </ul> in different orientations.	<b>Geometry Unit 1A: 2-D Shapes and Angles</b> 3: Classifying Triangles 4: Identifying and Constructing Triangles 6: Consolidation of 2-D Shapes and Angles	<b>Big Ideas: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.</b> <b>Investigating geometric attributes and properties of 2-D shapes and 3-D solids</b> - 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).
6.SS.5. Describe and compare the sides and angles of regular and irregular polygons.	<b>Geometry Unit 1A: 2-D Shapes and Angles</b> 5: Investigating Polygons 6: Consolidation of 2-D Shapes and Angles	<b>Big Ideas: 2-D shapes and 3-D solids can be analyzed and classified in different ways by their attributes.</b> <b>Investigating geometric attributes and properties of 2-D shapes and 3-D solids</b> - 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 lengths, angles, diagonals).

## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Shape and Space: Transformations)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Describe and analyze position and motion of objects and shapes.		
<b>Specific Learning Outcomes</b> 6.SS.6. Perform a combination of transformations (translations, rotations, or reflections) on a single 2-D shape, and draw and describe the image.	<b>Geometry Unit 2A: Transformations</b> 7: Rotating 2-D Shapes on a Grid 8: Single Transformations on a Grid 9: Combining Transformations on a Grid 12: Consolidation of Transformations	<b>Big Ideas: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.</b> <b>Exploring 2-D shapes and 3-D solids by applying and visualizing transformations</b> - 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.
6.SS.7. Perform a combination of successive transformations of 2-D shapes to create a design, and identify and describe the transformations.	<b>Geometry Unit 2A: Transformations</b> 9: Combining Transformations on a Grid 12: Consolidation of Transformations	<b>Big Ideas: 2-D shapes and 3-D solids can be transformed in many ways and analyzed for change.</b> <b>Exploring 2-D shapes and 3-D solids by applying and visualizing transformations</b> - 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.
6.SS.8. Identify and plot points in the first quadrant of a Cartesian plane using whole-number ordered pairs.	<b>Geometry Unit 2A: Transformations</b> 10: Plotting and Reading Coordinates 11: Transformations on a Cartesian Plane 12: Consolidation of Transformations	<b>Big Idea: Objects can be located in space and viewed from multiple perspectives.</b> <b>Locating and mapping objects in space</b> - 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>6.SS.9. Perform and describe single transformations of a 2-D shape in the first quadrant of a Cartesian plane (limited to whole-number vertices).</p>	<p><b>Geometry Unit 2A: Transformations</b> 11: Transformations on a Cartesian Plane 12: Consolidation of Transformations</p>	<p><b>Big Idea: Objects can be located in space and viewed from multiple perspectives.</b> <b>Locating and mapping objects in space</b> - Plots and locates points on a Cartesian plane, and relates the location to the two axes. (Limited to the first quadrant.) - Analyzes and locates the vertices of 2-D shapes after transformation on a Cartesian plane. (Limited to the first quadrant.)</p>
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## Correlation of Manitoba Program of Studies with Mathology Grade 6 (Statistics and Probability: Data Analysis)

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Collect, display, and analyze data to solve problems.		
<b>Specific Learning Outcomes</b> 6.SP.1. Create, label, and interpret line graphs to draw conclusions.	<b>Data Management Unit 1: Data Management</b> 1: Exploring Line Graphs 6: Consolidation of Data Management	<b>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.</b> <b>Collecting data and organizing it into categories</b> - Differentiates between discrete (e.g., votes) and continuous (e.g., height) data. <b>Creating graphical displays of collected data</b> - 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.
6.SP.2. Select, justify, and use appropriate methods of collecting data, including <ul style="list-style-type: none"> <li>• questionnaires</li> <li>• experiments</li> <li>• databases</li> <li>• electronic media</li> </ul>	<b>Data Management Unit 1: Data Management</b> 3: Collecting and Organizing Data 6: Consolidation of Data Management	<b>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.</b> <b>Collecting data and organizing it into categories</b> - Constructs data organizers to support data collection (e.g., creates tally chart or line plot on a grid to collect survey data). - Selects and justifies an appropriate method of data collection (e.g., experiment, observation, survey) based on question posed.

<p>6.SP.3. Graph collected data and analyze the graph to solve problems.</p>	<p><b>Data Management Unit 1: Data Management</b> 3: Collecting and Organizing Data 4: Interpreting Graphs to Solve Problems 6: Consolidation of Data Management</p>	<p><b>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.</b> <b>Creating graphical displays of collected data</b> - 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. <b>Reading and interpreting data displays and analyzing variability</b> - Reads and interprets data displays using many-to-one correspondence. <b>Drawing conclusions by making inferences and justifying decisions based on data collected</b> - 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.</p>
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**Correlation of Manitoba Program of Studies with Mathology Grade 6  
 (Statistics and Probability: Chance and Uncertainty)**

Curriculum Expectations	Grade 6 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Learning Outcome:</b> Use experimental or theoretical probabilities to represent and solve problems involving uncertainty.		
<b>Specific Learning Outcomes</b> 6.SP.4. Demonstrate an understanding of probability by <ul style="list-style-type: none"> <li>• identifying all possible outcomes of a probability experiment</li> <li>• differentiating between experimental and theoretical probability</li> <li>• determining the theoretical probability of outcomes in a probability experiment</li> <li>• determining the experimental probability of outcomes in a probability experiment</li> <li>• comparing experimental results with the theoretical probability for an experiment</li> </ul>	<b>Data Management Unit 2: Probability</b> 7: Exploring Theoretical Probability 8: Independent Events 9: Conducting Experiments 10: Consolidation of Probability	<b>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.</b> <b>Collecting data and organizing it into categories</b> - Records the results of multiple trials of simple events. <b>Using the language and tools of chance to describe and predict events</b> - 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) and 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 $\frac{3}{5}$ ).