



## Correlation of Alberta Program of Studies with Mathology Grade 5 (Number)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Develop number sense.		
<b>Specific Outcomes</b> 1. Represent and describe whole numbers to 1 000 000.	<b>Number Unit 1: Number Relationships and Place Value</b> 1: Representing Larger Numbers 2: Comparing Larger Numbers 4: Consolidation of Number Relationships and Place Value	<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 1 000 000. <b>Big Idea: Numbers are related in many ways.</b> <b>Comparing and ordering quantities (multitude or magnitude)</b> - Compares, orders, and locates whole numbers based on place-value understanding and records using $<$ , $=$ , $>$ symbols. <b>Estimating quantities and numbers</b> - Rounds whole numbers using place-value understanding (e.g., 4736 can be rounded to 5000, 4700, 4740). <b>Decomposing and composing numbers to investigate equivalencies</b> - Composes and decomposes whole numbers using standard and non-standard partitioning (e.g., 1000 is 10 hundreds or 100 tens). <b>Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.</b> <b>Unitizing quantities into base-ten units</b> - 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.

<p>2. Use estimation strategies in problem-solving contexts.</p>	<p><b>Number Unit 1: Number Relationships and Place Value</b> 3: Estimating to Solve Problems</p> <p><b>Number Unit 2: Fluency with Addition and Subtraction</b> 5: Estimating Sums and Differences</p> <p><b>Number Unit 4: Fluency with Multiplication and Division</b> 20: Using Estimation for Multiplication and Division</p>	<p><b>Big Idea: Numbers are related in many ways.</b> <b>Comparing and ordering quantities (multitude or magnitude)</b> - Compares, orders, and locates whole numbers based on place-value understanding and records using <math>&lt;</math>, <math>=</math>, <math>&gt;</math> symbols. <b>Estimating quantities and numbers</b> - Rounds whole numbers using place-value understanding (e.g., 4736 can be rounded to 5000, 4700, 4740). <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> - Extends whole number computation models to larger numbers. <b>Developing fluency of operations</b> - Estimates the result of whole number operations using contextually relevant strategies (e.g., How many buses are needed to take the Grade 8 classes to the museum?). - 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).</p>
<p>3. Apply mental mathematics strategies and number properties in order to understand and recall basic multiplication facts (multiplication tables) to 81 and related division facts.</p>	<p><b>Number Unit 4: Fluency with Multiplication and Division</b> 19: Relating Multiplication and Division Facts 25: Consolidation of Fluency with Multiplication and Division</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> - Recognizes and generates equivalent numerical expressions using commutative and associative properties. - Understands operational relationships (e.g., inverse relationship between multiplication/division, addition/subtraction). - Understands the identity of operations (e.g., <math>5 + 0 = 5</math>; <math>7 \times 1 = 7</math>). <b>Developing fluency of operations</b> - Fluently recalls multiplication and division facts to 100.</p>

<p>4. Apply mental mathematics strategies for multiplication.</p>	<p><b>Number Unit 4: Fluency with Multiplication and Division</b>  20: Using Estimation for Multiplication and Division  21: Strategies for Multiplying Larger Numbers  25: Consolidation of Fluency with Multiplication and Division</p>	<p><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>  - Understands the effect of multiplying and dividing whole numbers by powers of 10.  - Extends whole number computation models to larger numbers.</p>
<p>5. Demonstrate, with and without concrete materials, an understanding of multiplication (2-digit by 2-digit) to solve problems.</p>	<p><b>Number Unit 4: Fluency with Multiplication and Division</b>  22: Multiplying Whole Numbers  25: Consolidation of Fluency with Multiplication and Division</p>	<p><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>  - Extends whole number computation models to larger numbers.  <b>Developing fluency of operations</b>  - 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).</p>
<p>6. Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit), and interpret remainders to solve problems.</p>	<p><b>Number Unit 4: Fluency with Multiplication and Division</b>  23: Dividing Larger Numbers  25: Consolidation of Fluency with Multiplication and Division</p>	<p><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>  - Extends whole number computation models to larger numbers.  <b>Developing fluency of operations</b>  - 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).</p>
<p>7. Demonstrate an understanding of fractions by using concrete, pictorial and symbolic representations to:</p> <ul style="list-style-type: none"> <li>• create sets of equivalent fractions</li> <li>• compare fractions with like and unlike denominators.</li> </ul>	<p><b>Number Unit 3: Fractions and Decimals</b>  10: Equivalent Fractions  12: Comparing and Ordering Fractions  18: Consolidation of Fractions and Decimals</p>	<p><b>Big Idea: Numbers are related in many ways.</b>  <b>Comparing and ordering quantities (multitude or magnitude)</b>  - Compares, orders, and locates fractions with the same numerator or denominator using reasoning (e.g., <math>\frac{3}{5} &gt; \frac{3}{6}</math> because fifths are larger parts).  - Compares, orders, and locates fractions using flexible strategies (e.g., comparing models; creating common denominators or numerators).  <b>Estimating quantities and numbers</b>  - Estimates the location of decimals and fractions on a number line.  - Estimates the size and magnitude of</p>

		<p>fractions by comparing to benchmarks.</p> <p><b>Decomposing and composing numbers to investigate equivalencies</b></p> <ul style="list-style-type: none"> <li>- Generates and identifies equivalent fractions using flexible strategies (e.g., represents the same part of a whole; same part of a set; same location on a number line).</li> </ul> <p><b>Big Idea: Quantities and numbers can be grouped by or partitioned into equal-sized units.</b></p> <ul style="list-style-type: none"> <li>- Partitions fractional parts into smaller fractional units (e.g., partitions halves into thirds to create sixths).</li> </ul>
<p>8. Describe and represent decimals (tenths, hundredths, thousandths), concretely, pictorially and symbolically.</p>	<p><b>Number Unit 3: Fractions and Decimals</b></p> <p>13: Representing Decimals</p> <p>18: Consolidation of Fractions and Decimals</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 decimal number understanding to thousandths.</li> </ul> <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>- 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>- Understands that the value of a digit is ten times the value of the same digit one place to the right.</li> <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 (i.e., numerals, number names, expanded form).</li> </ul>
<p>9. Relate decimals to fractions and fractions to decimals (to thousandths).</p>	<p><b>Number Unit 3: Fractions and Decimals</b></p> <p>13: Representing Decimals</p> <p>16: Relating Fractions and Decimals</p> <p>18: Consolidation of Fractions and Decimals</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>- Models and explains the relationship between a fraction and its equivalent decimal form (e.g., <math>\frac{2}{5} = \frac{4}{10} = 0.4</math>).</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>- Uses fractions with denominators of 10 to develop decimal fraction understanding and notation (e.g., five-tenths is <math>\frac{5}{10}</math> or 0.5).</li> <li>- Understands that the value of a digit is ten times the value of the same digit one place to the right.</li> <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 (i.e., numerals, number names, expanded form).</li> </ul>
<p>10. Compare and order decimals (to thousandths) by using:</p> <ul style="list-style-type: none"> <li>• benchmarks</li> <li>• place value</li> <li>• equivalent decimals.</li> </ul>	<p><b>Number Unit 3: Fractions and Decimals</b></p> <p>15: Comparing and Ordering Decimals</p> <p>18: Consolidation of Fractions and Decimals</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 decimal numbers using place-value understanding.</li> </ul> <p><b>Estimating quantities and numbers</b></p> <ul style="list-style-type: none"> <li>- Estimates the location of decimals and fractions on a number line.</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>- Understands that the value of a digit is ten times the value of the same digit one place to the right.</li> <li>- Understands that the value of a digit is one-tenth the value of the same digit one place to the left.</li> </ul>
<p>11. Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths).</p>	<p><b>Number Unit 5: Operations with Fractions and Decimals</b></p> <p>26: Estimating Sums and Differences with Decimals</p> <p>27: Adding with Decimal Numbers</p> <p>28: Subtracting with Decimal Numbers</p> <p>32: Consolidation of Operations with Fractions and Decimals</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>- Demonstrates an understanding of decimal number computation through modelling and flexible strategies.</li> </ul> <p><b>Developing fluency of operations</b></p> <ul style="list-style-type: none"> <li>- Estimates sums and differences of decimal numbers (e.g., calculating cost of transactions involving dollars and cents).</li> <li>- Solves decimal number computation using efficient strategies.</li> </ul>



## Correlation of Alberta Program of Studies with Mathology Grade 5 (Patterns and Relations: Patterns)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Use patterns to describe the world and to solve problems.		
<b>Specific Outcomes</b> 1. Determine the pattern rule to make predictions about subsequent elements.	<b>Patterning Unit 1: Patterning</b> 1: Investigating Geometric Patterns 2: Investigating Number Patterns 3: Using Pattern Rules to Solve Problems 4: Consolidation of Patterning	<b>Big Idea: Regularity and repetition form patterns that can be generalized and predicted mathematically. Representing patterns, relations, and functions</b> - Describes, generates, extends, translates, and corrects number and shape patterns that follow a predetermined rule. - Uses multiple approaches to model situations involving repetition (i.e., repeating patterns) and change (i.e., increasing/decreasing patterns) (e.g., using objects, tables, graphs, symbols, loops and nested loops in coding). - Represents a numeric or shape pattern using a table of values by pairing the term value with a term number. - Generates a visual model to represent a simple number pattern. - Represents a mathematical context or problem with expressions and equations using variables to represent unknowns. <b>Generalizing and analyzing patterns, relations, and functions</b> - 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.



## Correlation of Alberta Program of Studies with Mathology Grade 5 (Patterns and Relations: Variables and Equations)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Represent algebraic expressions in multiple ways.		
<b>Specific Outcomes</b> 2. Express a given problem as an equation in which a letter variable is used to represent an unknown number (limited to whole numbers).	<b>Patterning Unit 2: Variables and Equations</b> 5: Using Variables 6: Solving Addition and Subtraction Equations 7: Solving Multiplication and Division Equations 8: Using Equations to Solve Problems 10: Consolidation of Variables and Equations	<b>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</b> - 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: $\square - 4 = 7$ ). <b>Using variables, algebraic expressions, and equations to represent mathematical relations</b> - 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).

<p>3. Solve problems involving single-variable, one-step equations with whole number coefficients and whole number solutions.</p>	<p><b>Patterning Unit 2: Variables and Equations</b></p> <p>5: Using Variables</p> <p>6: Solving Addition and Subtraction Equations</p> <p>7: Solving Multiplication and Division Equations</p> <p>8: Using Equations to Solve Problems</p> <p>10: Consolidation of Variables and Equations</p>	<p><b>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</b></p> <ul style="list-style-type: none"> <li>- Determines an unknown number in simple one-step equations using different strategies (e.g., <math>n \times 3 = 12</math>; <math>13 - \square = 8</math>).</li> <li>- Uses arithmetic properties to investigate and transform one-step addition and multiplication equations (e.g., <math>5 + 4 = 9</math> and <math>5 + a = 9</math> have the same structure and can be rearranged in similar ways to maintain equality: <math>4 + 5 = 9</math> and <math>a + 5 = 9</math>).</li> <li>- Uses arithmetic properties to investigate and transform one-step subtraction and division equations (e.g., <math>12 - 5 = 7</math> and <math>12 - b = 7</math> have the same structure and can be rearranged in similar ways to maintain equality: <math>12 - 7 = 5</math> and <math>12 - 7 = b</math>).</li> </ul> <p><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> </ul>
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## Correlation of Alberta Program of Studies with Mathology Grade 5 (Shape and Space: Measurement)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Use direct and indirect measurement to solve problems.		
<b>Specific Outcomes</b> 1. Identify 90° angles.	<b>Geometry Unit 1A: 2-D Shapes and 3-D Solids</b> 2: Investigating Quadrilaterals 4: Consolidation of 2-D Shapes and 3-D Solids	<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> - Understands angle as a geometric figure formed from two rays or line segments sharing a common endpoint.
2. Design and construct different rectangles, given either perimeter or area, or both (whole numbers), and make generalizations.	<b>Measurement Unit 1: Length, Perimeter, and Area</b> 4: Relating the Perimeter and Area of Rectangles 6: Consolidation of Length, Perimeter, and Area	<b>Big Idea: Assigning a unit to a continuous attribute allows us to measure and make comparisons. Understanding relationships among measured units</b> - Develops and generalizes strategies to compute area and perimeter of rectangles. - Investigates the relationship between perimeter and area in rectangles.
3. Demonstrate an understanding of measuring length (mm) by: <ul style="list-style-type: none"> <li>• selecting and justifying referents for the unit mm</li> <li>• modelling and describing the relationship between mm and cm units, and between mm and m units.</li> </ul>	<b>Measurement Unit 1: Length, Perimeter, and Area</b> 1: Estimating and Measuring in Millimetres 2: Measuring Length in Different Units 6: Consolidation of Length, Perimeter, and Area	<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> - Chooses the most appropriate unit to measure a given attribute of an object (e.g., classroom area measured in square metres). <b>Understanding relationships among measured units</b> - Understands and applies the multiplicative relationship among metric units of length, mass, and capacity.

<p>4. Demonstrate an understanding of volume by:</p> <ul style="list-style-type: none"> <li>• selecting and justifying referents for <math>\text{cm}^3</math> or <math>\text{m}^3</math> units</li> <li>• estimating volume, using referents for <math>\text{cm}^3</math> or <math>\text{m}^3</math></li> <li>• measuring and recording volume (<math>\text{cm}^3</math> or <math>\text{m}^3</math>)</li> <li>• constructing right rectangular prisms for a given volume.</li> </ul>	<p><b>Measurement Unit 2: Volume, Capacity, and Mass</b></p> <p>10: Investigating Volume 11: Investigating Volume with Rectangular Prisms 12: Consolidation of Volume, Capacity, and Mass</p>	<p><b>Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.</b></p> <p><b>Understanding attributes that can be measured, compared, and ordered</b></p> <ul style="list-style-type: none"> <li>- Understands volume and capacity as attributes of 3-D objects that can be measured and compared.</li> </ul> <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> <ul style="list-style-type: none"> <li>- Chooses the most appropriate unit to measure a given attribute of an object (e.g., classroom area measured in square metres).</li> <li>- Develops understanding of a unit cube and uses unit cubes to estimate and measure volume of 3-D objects.</li> <li>- Measures, constructs, and estimates volume using standard cubic units (e.g., cubic centimetre).</li> </ul> <p><b>Understanding relationships among measured units</b></p> <ul style="list-style-type: none"> <li>- Understands and applies the multiplicative relationship among metric units of length, mass, and capacity.</li> </ul>
<p>5. Demonstrate an understanding of capacity by:</p> <ul style="list-style-type: none"> <li>• describing the relationship between mL and L</li> <li>• selecting and justifying referents for mL or L units</li> <li>• estimating capacity, using referents for mL or L</li> <li>• measuring and recording capacity (mL or L).</li> </ul>	<p><b>Measurement Unit 2: Volume, Capacity, and Mass</b></p> <p>8: Investigating Capacity 12: Consolidation of Volume, Capacity, and Mass</p>	<p><b>Big Idea: Many things in our world (e.g., objects, spaces, events) have attributes that can be measured and compared.</b></p> <p><b>Understanding attributes that can be measured, compared, and ordered</b></p> <ul style="list-style-type: none"> <li>- Understands volume and capacity as attributes of 3-D objects that can be measured and compared.</li> </ul> <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> <ul style="list-style-type: none"> <li>- Chooses the most appropriate unit to measure a given attribute of an object (e.g., classroom area measured in square metres).</li> </ul> <p><b>Understanding relationships among measured units</b></p>

		- Understands and applies the multiplicative relationship among metric units of length, mass, and capacity.
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## Correlation of Alberta Program of Studies with Mathology Grade 5 (Shape and Space: 3-D Objects and 2-D Shapes)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.		
<b>Specific Outcomes</b> 6. Describe and provide examples of edges and faces of 3-D objects, and sides of 2-D shapes that are: <ul style="list-style-type: none"> <li>• parallel</li> <li>• intersecting</li> <li>• perpendicular</li> <li>• vertical</li> <li>• horizontal.</li> </ul>	<b>Geometry Unit 1A: 2-D Shapes and 3-D Solids</b> 1: Properties of 2-D Shapes and 3-D Objects 2: Investigating Quadrilaterals 4: Consolidation of 2-D Shapes and 3-D Solids	<b>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</b> - Sorts, describes, constructs, and classifies polygons based on side attributes (e.g., parallel, perpendicular, regular/irregular). - Sorts, describes, constructs, and classifies 3-D objects based on edges, faces, vertices, and angles (e.g., prisms, pyramids). <b>Investigating 2-D shapes, 3-D solids, and their attributes through composition and decomposition</b> - Identifies types of lines in 2-D images (e.g., parallel, intersecting, perpendicular). - Investigates 2-D shapes that do or do not have parallel and perpendicular lines.
7. Identify and sort quadrilaterals, including: <ul style="list-style-type: none"> <li>• rectangles</li> <li>• squares</li> <li>• trapezoids</li> <li>• parallelograms</li> <li>• rhombuses</li> </ul> according to their attributes.	<b>Geometry Unit 1A: 2-D Shapes and 3-D Solids</b> 2: Investigating Quadrilaterals 4: Consolidation of 2-D Shapes and 3-D Solids	<b>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</b> - Identifies and draws parallel, intersecting, and perpendicular lines. - Sorts, describes, constructs, and classifies polygons based on side attributes (e.g., parallel, perpendicular, regular/irregular). - Sorts, describes, classifies 2-D shapes based on their geometric properties (e.g., side lengths, angles, diagonals).

		<ul style="list-style-type: none"> <li>- Classifies 2-D shapes within a hierarchy based on their properties (e.g., rectangles are a subset of parallelograms).</li> <li><b>Investigating 2-D shapes, 3-D solids, and their attributes through composition and decomposition</b></li> <li>- Identifies types of lines in 2-D images (e.g., parallel, intersecting, perpendicular).</li> <li>- Investigates 2-D shapes that do or do not have parallel and perpendicular lines.</li> </ul>
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## Correlation of Alberta Program of Studies with Mathology Grade 5 (Shape and Space: Transformations)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Describe and analyze position and motion of objects and shapes.		
<b>Specific Outcomes</b> 8. Identify and describe a single transformation, including a translation, rotation and reflection of 2-D shapes.	<b>Geometry Unit 2A: Transformations</b> 5: Investigating Translations 6: Investigating Reflections 7: Investigating Rotations 8: Identifying Transformations 9: Consolidation of Transformations	<b>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</b> - Identifies, describes, and performs single transformations (i.e., translation, reflection, rotation) on 2-D shapes.
9. Perform, concretely, a single transformation (translation, rotation or reflection) of a 2-D shape, and draw the image.	<b>Geometry Unit 2A: Transformations</b> 5: Investigating Translations 6: Investigating Reflections 7: Investigating Rotations 8: Identifying Transformations 9: Consolidation of Transformations	<b>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</b> - Identifies, describes, and performs single transformations (i.e., translation, reflection, rotation) on 2-D shapes.



## Correlation of Alberta Program of Studies with Mathology Grade 5 (Statistics and Probability: Data Analysis)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Collect, display and analyze data to solve problems.		
<b>Specific Outcomes</b> 1. Differentiate between first-hand and second-hand data.	<b>Data Management Unit 1A: Data Management</b> 1: Exploring First-Hand and Second-Hand Data	<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 primary (i.e., first-hand) and secondary (i.e., second-hand) data sources.
2. Construct and interpret double bar graphs to draw conclusions.	<b>Data Management Unit 1A: Data Management</b> 2: Constructing Double-Bar Graphs 3: Interpreting Double-Bar Graphs 4: 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>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). - Visually represents two or more data sets (e.g., double bar chart, stacked bar graph, multi-line graph, multi-column table). <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>

		<ul style="list-style-type: none"><li>- Draws conclusions based on data presented.</li><li>- Interprets the results of data presented graphically from primary (e.g., class survey) and secondary (e.g., online news reports) sources.</li></ul>
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## Correlation of Alberta Program of Studies with Mathology Grade 5 (Statistics and Probability: Chance and Uncertainty)

Curriculum Expectations	Grade 5 Mathology.ca	Pearson Canada Grades 4-6 Mathematics Learning Progression
<b>General Outcome</b> Use experimental or theoretical probabilities to represent and solve problems involving uncertainty.		
<b>Specific Outcomes</b> 3. Describe the likelihood of a single outcome, using words such as: <ul style="list-style-type: none"> <li>• impossible</li> <li>• possible</li> <li>• certain.</li> </ul>	<b>Data Management Unit 2A: Probability</b> 5: Describing Likelihood of Outcomes 6: Conducting Experiments 7: Designing Experiments 8: 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>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).
4. Compare the likelihoods of two possible outcomes, using words such as: <ul style="list-style-type: none"> <li>• less likely</li> <li>• equally likely</li> <li>• more likely.</li> </ul>	<b>Data Management Unit 2A: Probability</b> 5: Describing Likelihood of Outcomes 6: Conducting Experiments 7: Designing Experiments 8: 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>Using the language and tools of chance to describe and predict events</b> - 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 coin tosses is $\frac{3}{5}$ ).