

<b>Grade: 4</b> <b>Subject:</b> Mathematics	<b>Unit 2: Quadrilaterals</b>
<b>Big Idea/Rationale:</b>	<ul style="list-style-type: none"> <li>• This unit explores congruence, similarity, and symmetry; parallel and perpendicular lines; and the differences among some quadrilaterals. This unit helps students understand how area and perimeter are measured. Perimeter and area are two different measurements of the same shape and that each has its own kind of measurement: linear units for perimeter and square units for area.</li> </ul>
<b>Enduring Understanding (Mastery Objective):</b>	<p>Students will understand that:</p> <ul style="list-style-type: none"> <li>• Geometric properties can be used to construct geometric figures</li> <li>• Point, line, and plane are the core attributes of space objects, and real-world situations can be used to think about these attributes.</li> <li>• Line segments and rays are sets of points that describe parts of lines, shapes and solids. Angles are formed by two intersecting lines or rays with a common endpoint and are classified by size.</li> <li>• Plane shapes have many properties that make them different from one another. Polygons can be described and classified by their sides and angles.</li> <li>• What we measure affects how we measure it.</li> </ul>
<b>Essential Questions (Instructional Objective):</b>	<ul style="list-style-type: none"> <li>• What are some important geometric names for lines?</li> <li>• How do you identify polygons?</li> <li>• How do geometric relationships help us solve problems?</li> <li>• How can spatial relationships be described by careful geometric language?</li> <li>• How can measurements be used to solve problems?</li> </ul>
<b>Content (Subject Matter &amp; Learning Objectives):</b>	<ul style="list-style-type: none"> <li>• Identify congruent figures.</li> <li>• Determine similarity.</li> <li>• Explore line symmetry.</li> <li>• Identify lines, line segments, and rays.</li> <li>• Demonstrate understanding of perpendicular and parallel.</li> <li>• Draw, label, and name geometric figures.</li> <li>• Recognize and apply characteristics of different types of quadrilaterals.</li> <li>• Demonstrate understanding of perimeter and area.</li> <li>• Explore general methods for finding perimeter of rectangles.</li> <li>• Relate the formulas for perimeter and area of rectangles to the formulas for the perimeter and area of parallelograms.</li> <li>• Calculate the perimeter and area of parallelograms.</li> <li>• Compose and decompose complex figures.</li> <li>• Find the perimeter and area of complex figures.</li> </ul>

<b>Standards</b>	<ul style="list-style-type: none"> <li>• <b>4.MD.A.2:</b> Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</li> <li>• <b>4.MD.A.3:</b> Apply the area and perimeter formulas for rectangles in real world and mathematical problems.</li> <li>• <b>4.MD.C.5.A:</b> An angle is measured with reference to a circle with its center at a common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through <math>\frac{1}{360}</math> of a circle is called a “one-degree angle”, and can be used to measure angles.</li> <li>• <b>4.G.A.1:</b> Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.</li> <li>• <b>4.G.A.2:</b> Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specific size. Recognize right triangles as a category, and identify right triangles</li> <li>• <b>4.G.A.3:</b> Recognize a line of symmetry for a two-dimensional figures as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetry figures and draw lines of symmetry.</li> <li>• <b>Mathematical Practices</b></li> </ul>
<b>Materials and Resources</b>	<ul style="list-style-type: none"> <li>• Math Expressions, Student Journals, Manipulatives, Math themed literature, BrainPop, IXL Mathematics</li> </ul>