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| <b>Grade: 5</b><br><b>Subject:</b><br>Mathematics    | <b>Unit 12: Three Dimensional Figures</b>  |
| <b>Big Idea/Rationale</b>                            | <ul style="list-style-type: none"> <li>• In this unit students compare and contrast the characteristics of cubes, spheres, prisms, pyramids, cylinders and cones. They relate three-dimensional figures to two dimensional figures by building nets, calculating surface area and drawing two dimensional representations of three dimensional figures. They explore rotation of solid shapes and identify rotational symmetry in prisms and pyramids.</li> </ul>  |
| <b>Enduring Understanding (Mastery Objective)</b>    | Students will understand that: <ul style="list-style-type: none"> <li>• Nets can be used to represent a three-dimensional object and be used to calculate surface area.</li> <li>• Figures can be described, classified and analyzed by their nets.</li> <li>• Three-dimensional rotations can be described with fractions or degrees (0-360 degrees).</li> </ul>  |
| <b>Essential Questions (Instructional Objective)</b> | <ul style="list-style-type: none"> <li>• How are rectangular prisms similar/dissimilar to cylinders, pyramids and cones?</li> <li>• How can surface area and volume be found on three dimensional solids?</li> <li>• How do you represent a three dimensional object as a two dimensional shape?</li> <li>• What do you use to measure the rotation of three-dimensional object?</li> </ul>  |
| <b>Content (Subject Matter)</b>                      | <ul style="list-style-type: none"> <li>• Compare and contrast the characteristics of prisms and cylinders.</li> <li>• Explore the surface area of prisms.</li> <li>• Identify the characteristics of pyramids and cones.</li> <li>• Explore the surface area of pyramids.</li> <li>• Represent three-dimensional objects in two dimensions.</li> <li>• Describe the position of a solid shape after a <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math> and <math>\frac{3}{4}</math> rotation about an axis of rotation.</li> <li>• Describe the type of rotational symmetry, if any, of a prism or pyramid.</li> </ul> |
| <b>Skills/ Benchmarks (CCSS Standards)</b>           | <ul style="list-style-type: none"> <li>• <b>Foundational skills/introduction for Grade 6.</b></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>   |