Unit 4d-Lines, Angles, and Shapes

Content Area: **Math**
Course(s): **Math 4**
Time Period: **Marking Period 4**
Length: **MP4 Topic 16 16-1 to 16-6**
Status: **Published**

Essential Questions

- How can you classify triangles and quadrilaterals?
- What is line symmetry?

Big Ideas

- **Use Line Relationships in Classifying Quadrilaterals:** Students learn about relationships between lines: parallel lines, intersecting, and perpendicular. Students use these relationships when they classify quadrilaterals.
- **Classify Triangles and Quadrilaterals:** Students gain a deeper conceptual understanding of the classification process by analyzing both triangles and quadrilaterals. Students will learn to analyze shapes based on their attributes and that one shape can have more than one classification.
- **Recognize and Draw Line-Symmetric Figures:** Students recognize line-symmetric figures and draw their lines of symmetry. Students use a given figure and a line of symmetry to draw a line-symmetric figure. Students' understanding of attributes of triangles and quadrilaterals help them find or describe lines of symmetry.

Diversity Integration

Objective: Students will be able to identify lines, angles and shapes on the flags of various countries.

Description of Activity: Students will be given three flags of different countries. They will be required to identify a line segment, an acute angle, an obtuse angle, a right angle, and shapes that they see. Students will share their findings with the class.

CSDT Technology Integration

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

Activity:

Students will work independently in the IXL program to answer questions about lines, angles, and shapes. The specific skills in IXL related to these standards are lines (X1-X3, V3-V-5), angles (Y1-Y10), and shapes (W1-W12). The program will track students progress and mastery of these skills.

Enduring Understandings

Operations and Algebraic Thinking

4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.

Geometry

4.G.A.1 [M] Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.A.2 [M] Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

4.G.A.3 [M] Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Measurement and Data

4.MD.C.5 [M] Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.

Mathematical Practices Focus

3. Construct viable arguments and critique the reasoning of others.