

Lesson Plan

Subject: Grade 4 Math

Lesson: The Many Shapes of a Board Back Chair

Standards Addressed:

- Classify quadrilaterals and triangles based on angle measure, side lengths, and the presence or absence of parallel or perpendicular lines. (NC.4.G.2)
- Recognize symmetry in a two-dimensional figure and identify and draw lines of symmetry. (NC.4.G.3)

Objectives:

- Students will be able to classify types of angles.
- Students will be able to identify parallel and perpendicular lines.
- Students will be able to determine if a polygon is symmetrical and identify lines of symmetry.

Materials Needed:

- Device to show video
- Straight edge, right angle (corner of a notebook), scissors
- “Shapes and Symmetry” Activity

Outline:

- Prior to the lesson, students should be able to identify an octagon, square, and acute, obtuse, and right angles. Students should also understand the difference between parallel and perpendicular and be able to identify lines of symmetry.
- Show the video.
- Discuss the activity prompts, modeling as needed.
- Students can finish the activity independently or with a partner.

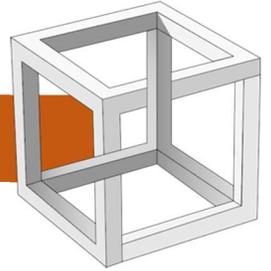
Take It Further: Students follow these instructions to make a compass using a pin, string, and a pencil: <https://sciencing.com/make-compass-home-geometry-12082521.html>

Cross-Curriculum Connection: Students design a notebook cover using only octagons, squares, and triangles.



Shapes and Symmetry

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Student Name: _____

Date: _____

1. Classify the types of angles that make up the shapes below as acute, obtuse or right. You can use the corner of your notebook as a reference for right angles.

Draw the symbols for the different angles on the shapes.

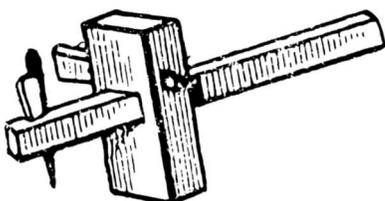
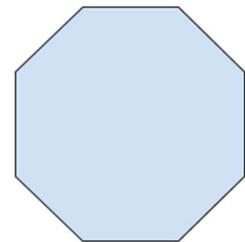
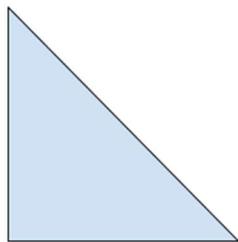
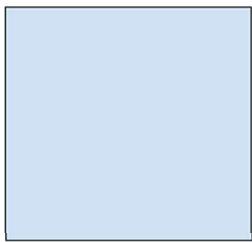
2. Identify parallel and perpendicular lines in each shape.

Put a  next to the parallel lines and a  next to the perpendicular lines.

3. Determine if each shape is symmetrical.

Draw the lines of symmetry on the shapes.

4. *Cut out the shape and fold it on the lines of symmetry to check your work.*

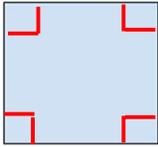
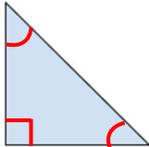
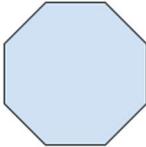


Shapes and Symmetry

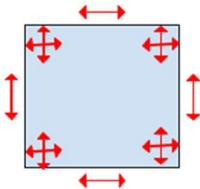
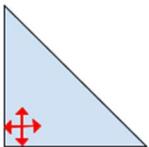
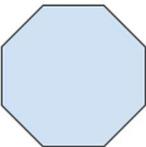
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ANSWER KEY

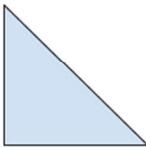
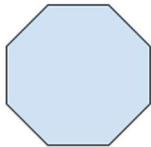
1.

				Every angle in the octagon is obtuse.
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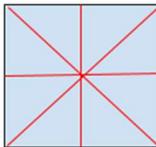
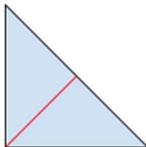
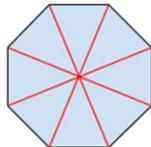
2.

				Each opposite side of the square and octagon is parallel.
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3.

				All of these shapes are symmetrical.
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4.

			
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