Partitioning Shapes and Number Lines
Adapted from the book <u>Beyond Pizzas and Pies: 10 Essential Strategies for Supporting Fraction Sense</u>
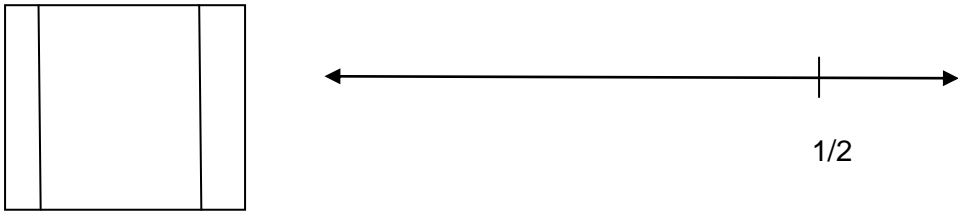
Student Objective: "I can partition shapes and number lines to show fractions."

Standards to Measure	Mathematical Practices
3. G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area and describe the area of each part as ¼ of the area of the shape. **3.NF.1** Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.	2. Reason abstractly and quantitatively 6. Attend to precision 7. Look for and make use of structure

Materials:
Various shapes and number lines to partition
"Partitioning Shading, and Showing Fractional Parts" sheet

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G **Engage Students with the Goal**	<u>State and Rate</u> Objective: ""I can partition shapes and number lines to show fractions." Students rate themselves to the goal (1, 2, 3, 4).	Setting Objectives and Providing Feedback
A **Access Prior Knowledge**	Briefly discuss what partitioning means. Show examples of partitioned shapes and number lines. Ask, "Are these fractional parts named correctly? Why or why not?" Have students discuss with each other and share out their reasoning with the class. 1/3 1/3 1/3 1/2 Tell students that they will be focusing on partitioning shapes and number lines with given fractions today.	Nonlinguistic Representation Cues, Questions, and Advance Organizers Cooperative Learning

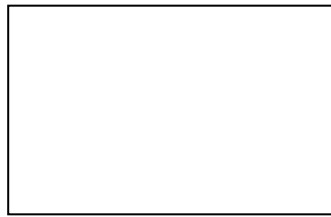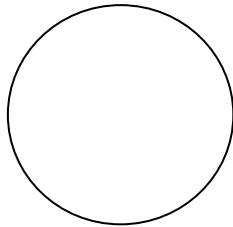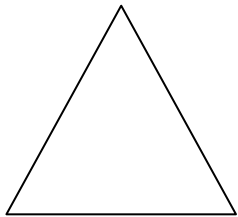|		
N **New Information**	1. Break students into groups and give them several different shapes and number lines to partition. Ask them to show or shade a particular fractional part. Have students fold them to partition and then shade. Examples of shapes to use would be: square, rectangle, circle, pentagon, oval, triangle, hexagon, octagon, star, etc. Number lines should have a 0 and 1 already designated on them, so that students can reason about fractional parts on the line. As students are working, circulate the room to see that they are partitioning into equal parts. If not, intervene with questioning. 2. Once students have partitioned their shapes and number lines, ask them to share their work and reasoning. Have them justify their partitioning and explain their thinking to the class. Discuss how there are different ways to divide and shade fractional parts of some shapes.	Similarities and Differences Nonlinguistic Representation Cues, Questions, and Advance Organizers
A **Application**	Have student complete the task "Partitioning, Shading, and Showing Fractional parts". As students work, check to see that they understand partitioning as related back to the goal.	Providing Feedback Practice and Homework
G **Revisit the Goal**	<u>State and Rate</u> Objective: "I can partition shapes and number lines to show fractions." Students rate themselves to the goal (1, 2, 3, 4). Have students write a statement to summarize their learning for the day.	Setting Objectives and Providing Feedback

Name _____

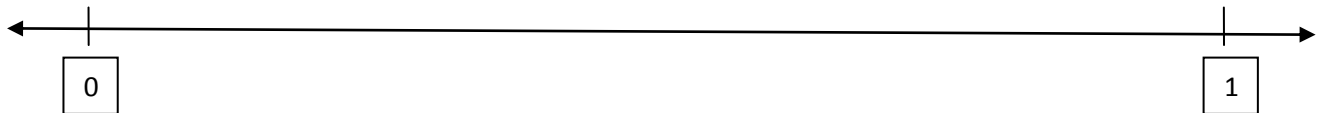# **Partitioning, Shading, and Showing Fractional Parts**

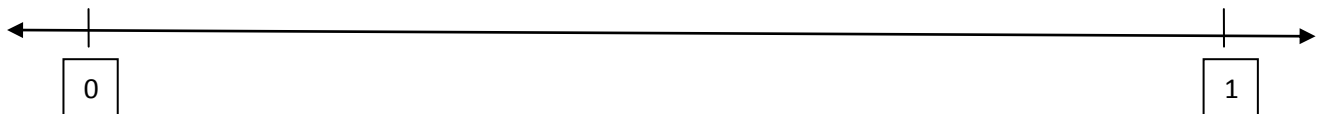Partition each shape to show _____. Shade and label _____ of each shape.
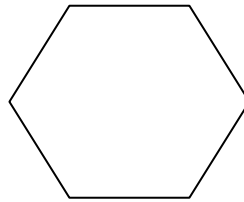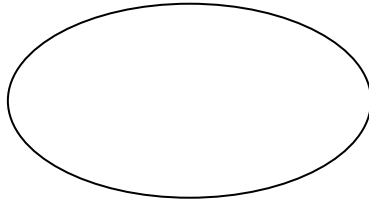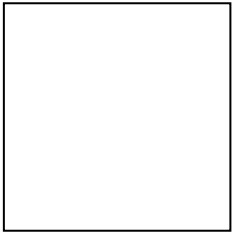
Partition each shape to show _____. Shade and label _____ of each shape.

Show and label _____ on the number line.

0		1

Show and label _____ on the number line.

0		1

Show and label _____ on the number line.

0		1