



Topic C

Halves, Thirds, and Fourths of Circles and Rectangles

2.G.3, 2.G.1

Focus Standard:	2.G.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
Instructional Days:	4	
Coherence		
-Links from:	G1–M5	Identifying, Composing, and Partitioning Shapes
-Links to:	G3–M5	Fractions as Numbers on the Number Line

Topic C focuses on partitioning circles and rectangles into equal fractional parts. In Lesson 9, students are introduced to partitioning shapes into two equal shares, or halves, using both circles and rectangles. First, partners choose different ways to fold a sheet of paper in half. Then, they label and share their halves, discovering that though they each folded their rectangle differently, they each have two equal parts of the original whole. Next, they cut out a circle and fold, color, and label one half. They then rotate their circles and discover that halves are determined by equal parts, not by the orientation of the line. Finally, students look at pictures of partitioned shapes and discuss whether the shaded (or unshaded) portion is or is not two equal shares. To encourage student reasoning about equal shares, a variety of partitions and orientations are used.

Lesson 10 continues the same process with thirds and fourths. Students learn to decompose a whole into three equal parts to create thirds. They create fourths by splitting two halves into two equal parts. Given a variety of partitioned shapes, students are asked to determine how many thirds or fourths are represented by the shaded (or unshaded) portion. Lesson 10 ends with students synthesizing their understanding of halves, thirds, and fourths by partitioning a pizza and a rectangular sheet cake, making decisions based on their share of the pizza or cake.

In Lesson 11, students build upon their new knowledge by assembling a whole out of fractional parts. Given a circle made of two parts, students see that the whole circle is composed of 2 halves. Similarly, they see that a whole rectangle cut into thirds is made of 3 thirds, or that a square cut into fourths is made of 4 fourths.

Topic C concludes with Lesson 12, in which students continue to explore the concept that equal parts of a rectangle can have different shapes. Using geoboards, students might partition a given rectangle into two squares, two rectangles, or even two triangles. In each case, students describe the parts as halves. In addition, students partition a square paper into differently shaped fourths and explain how one of the fourths (the square shape) can be transformed into the other fourth (the rectangle shape), as shown below.



This topic provides a foundation for Topic D, applying what students have learned about fractional parts of a circle, particularly halves and quarters, to telling time on an analog clock.

A Teaching Sequence Toward Mastery of Halves, Thirds, and Fourths of Circles and Rectangles

- Objective 1:** Partition circles and rectangles into equal parts, and describe those parts as halves, thirds, or fourths.
(Lessons 9–10)
- Objective 2:** Describe a whole by the number of equal parts including 2 halves, 3 thirds, and 4 fourths.
(Lesson 11)
- Objective 3:** Recognize that equal parts of an identical rectangle can have different shapes.
(Lesson 12)