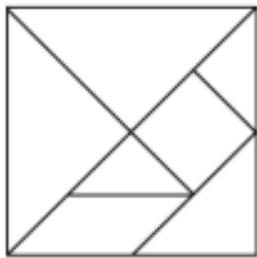
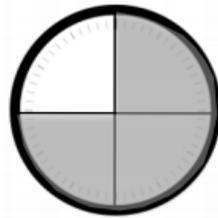


### *Time, Shapes, and Fractions as Equal Parts of Shapes*

In this final Module of the year, students extend their understanding of part-whole relationships through the lens of geometry. As students compose and decompose shapes, they begin to develop an understanding of unit fractions (fractions with one in the numerator) as equal parts of a whole.



A tangram puzzle: In Module 8, students will cut out the shapes, name them, and use them to compose composite shapes.



Relating fractional parts of a circle to minutes on the clock



### *What Came Before this*

**Module:** In Module 7, students worked extensively with data and measurement. They gathered data and represented it in various ways, measured in standard and metric units, and solved addition and subtraction problems with money, both coins and bills.

### *New Terms in this Module:*

a.m./p.m.

Analog clock/Digital Clock

**Angle** - e.g., figure formed by the corner of a polygon

**Parallel** - two lines on the same plane are parallel if they do not intersect

**Parallelogram** - quadrilateral with both pairs of opposite sides parallel

**Polygon** - closed figure with three or more straight sides, e.g., triangle, quadrilateral, pentagon, hexagon

**Quadrilateral** - four-sided polygon, e.g., square, rhombus, rectangle, parallelogram, trapezoid

**Quarter past, quarter to** - as relating to time and the clock

**Right angle** - e.g., a square corner

**Third of (shapes), thirds** - three equal shares

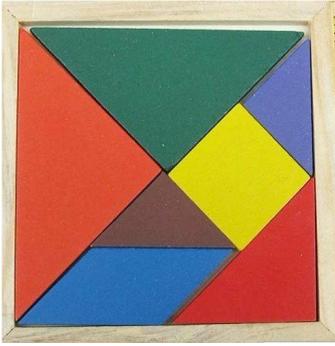
**A Whole** can be made up of 2 halves, 3 thirds or 4 fourths

### + How you can help at home:

- It's time to practice telling time! Using an analog clock, help your student practice telling time to the nearest 5 minutes.
- When drawing simple shapes, have your student practice dividing them into halves, thirds, and fourths (emphasizing equal-sized pieces).

## Key Common Core Standards:

- **Work with time**
  - Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- **Reason with shapes and their attributes**
  - Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes
  - Partition circles and rectangles into two, three, or four equal shares



(Above) Tangrams, pattern block puzzle pieces that students use as described below in Module 8



1 hexagon

2 triangles and  
2 rhombuses

2 trapezoids

(Above) Using pattern blocks to create composite shapes

Spotlight on Math Strategies:

Pattern Blocks

Students will use these blocks to compose shapes in this module of *A Story of Units*.

*A Story of Units* has several key mathematical strategies that will be used throughout a student's elementary years.

This module builds on the basic understanding students have about shapes earlier in *A Story of Units* and stretches their skills to see how to combine and create the shapes they know into new, composite shapes. Pattern blocks are not exclusive to *A Story of Units*. They are tools that have been used to support math learning for many generations of students.

In this module, students use the proper names of all the pattern block shapes: triangle, hexagon, trapezoid, and square and rhombus (two examples of quadrilaterals). We will also use the pattern blocks to notice the attributes of each shape, e.g. number of sides, angles, side lengths, etc. Finally, students divide the shapes into equal parts, focusing on halves, thirds, and fourths.

Sample Problem from Module 7, Lesson 9:

Circle the shapes that have 2 equal shares with 1 share shaded.

