Kenmore-Town of Tonawanda UFSD

We educate, prepare, and inspire all students to achieve their highest potential

Grade 1 Module 5
Parent Handbook

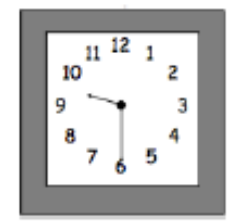
The materials contained within this packet have been taken from the Great Minds curriculum Eureka Math.

Eureka Math™ Tips for Parents

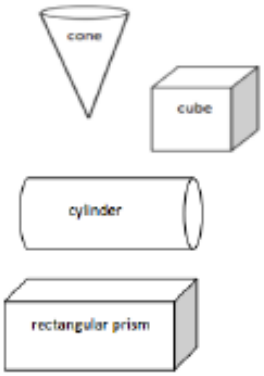
Grade 1 Module 5

Identifying, Composing, and Partitioning Shapes

In this module, students will revisit their kindergarten work with geometric shapes. They will sort, analyze, compare, and create two- and three-dimensional shapes, and put them together to create new shapes. They will also, as in their work with number bonds and addition and subtraction, examine the part-whole relationship through this new geometric lens.



Students will also use the idea of a half-circle to tell time to the ½ hour in this module.



Some three-dimensional shapes

What Came Before this Module: In Module 4, students studied, organized, and added and subtracted numbers within 40. We used the symbols >, <, and = to compare numbers.

What Comes After this Module: All of our first-grade learning comes together in this unit in which we will work with place value, addition, and subtraction within 100, as well as continue our work with money and coins.

New Terms and Strategies in this Module:

Attributes - characteristics of an object such as color or number of sides

Fourth - 1 out of 4 equal parts

Half - 1 out of 2 equal parts

Time Terms:
Half hour
Hour
Minute
O'clock

Three-Dimensional Shapes:

Cone	Cube
Cylinder	Sphere
Rectangular prism	

Two-Dimensional Shapes:

Circle	Half-circle
Square	Quarter-circle
Rectangle	Triangle

Hexagon - flat figure enclosed by six straight sides

Rhombus - flat figure enclosed by four straight sides of the same length where two pairs of opposite sides are parallel

+ How you can help at home:

- If you have Pattern Blocks or Tangram pieces at home, use them to practice the skills your student will be working on in this module. If you need blocks, ask your child's teacher for a blank copy of the ones being used in this module, or make your own out of paper from a model. (Please see the reverse side of this sheet for a helpful model of all the blocks).

Key Common Core Standards:

- *Reason with shapes and their attributes*
  - Distinguish between defining attributes (e.g. triangles are closed and three-sided) versus non-defining attributes (e.g. color, relative size, orientation)
  - Compose two-dimensional or three-dimensional shapes to create a composite shape
  - Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters
- *Tell and write time*
  - Tell and write time in hours and half-hours using analog and digital clocks

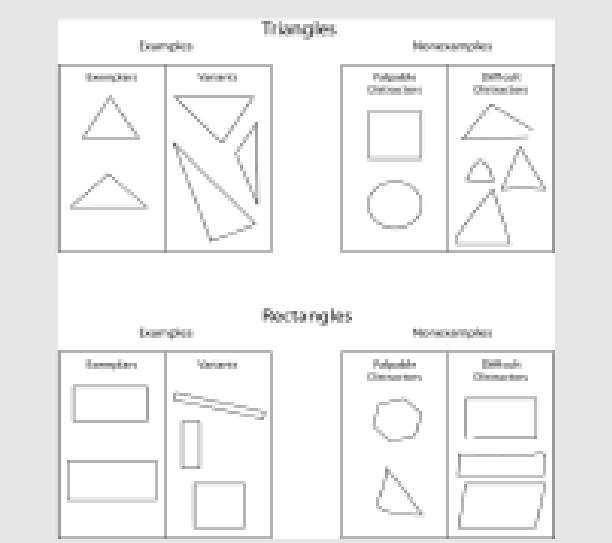
Prepared by Erin Schwenk, Math Coach

Identifying, Composing, and Partitioning Shapes

OVERVIEW

Throughout the year, students have explored part–whole relationships in many ways, such as their work with number bonds, tape diagrams, and the relationship between addition and subtraction. In Module 5, students consider part–whole relationships through a geometric lens.

In Topic A, students identify the defining parts, or attributes, of two- and three-dimensional shapes, building on their kindergarten experiences of sorting, analyzing, comparing, and creating various two- and three-dimensional shapes and objects (**1.G.1**). Using straws, students begin the exploration by creating and describing two-dimensional shapes without naming them. This encourages students to attend to and clarify a shape's defining attributes. In the following lessons, students name two- and three-dimensional shapes and find them in pictures and in their environment. New shape names are added to the students' repertoire, including *trapezoid, rhombus, cone,* and *rectangular prism*.



Exemplars are the typical visual prototypes of the shape category.

Variants are other examples of the shape category.

Palpable distractors are nonexamples with little or no overall resemblance to the exemplars.

Difficult distractors are visually similar to examples but lack at least one defining attribute.

In Topic B, students combine shapes to create a new whole: a composite shape (**1.G.2**). Students identify the name of the composite shape as well as the names of each shape that forms it. Students see that another shape can be added to a composite shape so that the composite shape becomes part of an even larger whole.

In Topic C, students relate geometric figures to equal parts and name the parts as halves and fourths (or quarters) (**1.G.3**). For example, students now see that a rectangle can be partitioned into two equal triangles (whole to part) and that the same triangles can be recomposed to form the original rectangle (part to whole). Students see that as they create more parts, decomposing the shares from halves to fourths, the parts get smaller.

The module closes with Topic D, in which students apply their understanding of halves (**1.G.3**) to tell time to the hour and half-hour (**1.MD.3**). Students construct simple clocks and begin to understand the hour hand, then the minute hand, and then both together. Throughout each lesson, students read both digital and analog clocks to tell time.

Throughout Module 5, students continue daily fluency with addition and subtraction, preparing for Module 6, where they will add within 100 and ensure their mastery of the grade-level fluency goal of sums and differences within 10.

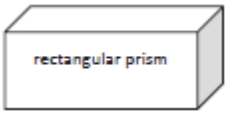
Terminology

New or Recently Introduced Terms

- Attributes (characteristics of an object such as color or number of sides)
- Composite shapes (shapes composed of two or more shapes)
- Digital clock

- Face (two-dimensional surface of a three-dimensional solid)
- Fourth of (shapes), fourths (1 out of 4 equal parts)
- Half-hour (interval of time lasting 30 minutes)
- Half of, halves (1 out of 2 equal parts)
- Half past (expression for 30 minutes past a given hour)
- Hour (unit for measuring time, equivalent to 60 minutes or 1/24 of a day)
- Hour hand (component on clock tracking hours)
- Minute (unit for measuring time, equivalent to 60 seconds or 1/60 of an hour)
- Minute hand (component on clock tracking minutes)
- O'clock (used to indicate time to a precise hour, with no additional minutes)
- Quarter of (shapes) (1 out of 4 equal parts)
- Three-dimensional shapes:
- Cone

- Rectangular prism



- Two-dimensional shapes:
- Half-circle

- Quarter-circle

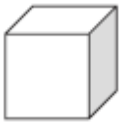
- Rhombus (flat figure enclosed by four straight sides of the same length wherein two pairs of opposite sides are parallel)
- Trapezoid (a quadrilateral in which at least one pair of opposite sides is parallel)

Familiar Terms and Symbols

- Clock

- Shape names (two-dimensional and three-dimensional) from Kindergarten
- Circle

- Cube



- Cylinder

- Hexagon (flat figure enclosed by six straight sides)
- Rectangle (flat figure enclosed by four straight sides and four right angles)
- Sphere

- Square (rectangle with four sides of the same length)
- Triangle (flat figure enclosed by three straight sides)

Suggested Tools and Representations

- Pattern blocks
- Square tiles
- Straws
- Student clocks, preferably with gears that can provide the appropriate hour-hand alignment
- Three-dimensional shape models (commercially produced or commonly found examples) including cube, cone, cylinder, rectangular prism, and sphere

Grade 1 Module 5 Topic A

Attributes of Shapes

Focus Standards:

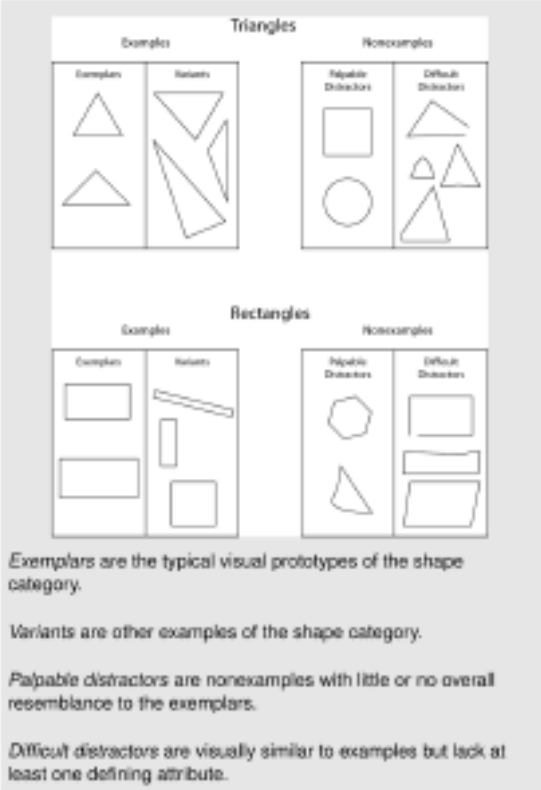
1.G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

Instructional Days Recommended: 3

In Module 5, students build on their exploration and knowledge of shapes from Kindergarten. In Topic A, students identify the defining attributes of individual shapes.

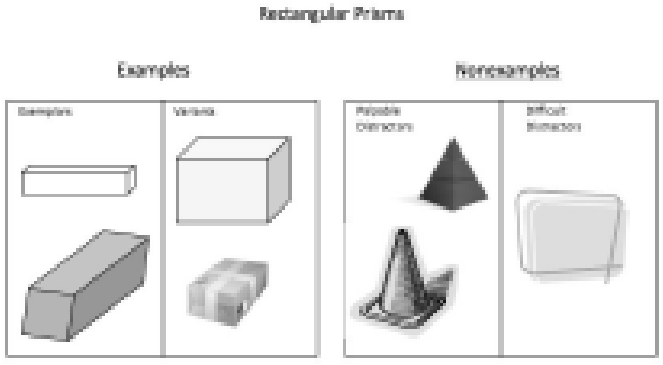
In Lesson 1, students use straws cut at various lengths to create and then classify shapes. A list of the attributes that are common to a set of shapes is created. As students create a new shape with their straws, they decide if it has all the listed attributes. The names of these shapes are intentionally omitted during this lesson to encourage students to use precise language as they describe each shape. In this way, students attend to, and clarify, a shape's defining attributes (1.G.1). For instance, rather than describing a shape as a triangle, students describe it as having three sides and three corners. As students sort the shapes as examples and non-examples,

they do the thoughtful work that is depicted in the image below at a first-grade level. Students are introduced to the term attributes during this lesson and continue to use the new vocabulary throughout the lessons that follow.



In Lesson 2, students connect defining attributes to the classification name. Along with circle, triangle, rectangle, and hexagon, which were introduced in Kindergarten, students learn trapezoid and rhombus. As in Kindergarten, students see squares as special rectangles.

In Lesson 3, defining attributes of three-dimensional shapes are explored. Along with the three-dimensional shape names learned in Kindergarten (*sphere, cube,* and *cylinder*), students expand their vocabulary to include *cone* and *rectangular prism*. Students are presented with models of three-dimensional shapes as well as real life examples to sort and classify based on defining attributes. Students complete sentence frames that help to distinguish defining attributes from non-defining attributes. For example, “A [can] is in the shape of the [cylinder] . It has circles at the ends just like all cylinders. This cylinder is made of metal, but some cylinders are not.”



**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 1

Objective: Classify shapes based on defining attributes using examples, variants, and non-examples.

Homework Key

1. 4 triangles circled

2. 1 circle and 3 ovals circled

3. 1 rectangle and 1 square circled

4. a. Answers will vary.
   b. Answers will vary.

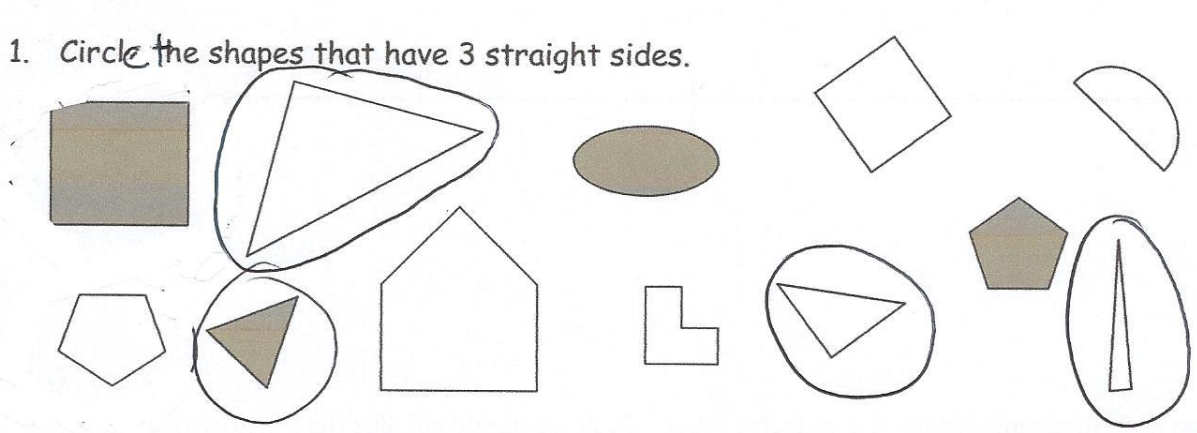
5. Have 4 straight sides; have 4 square corners

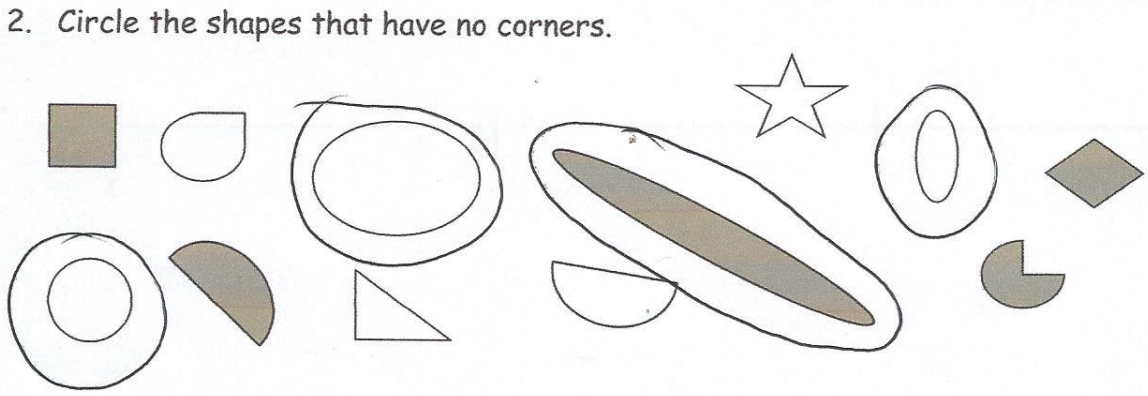
6. Rectangle circled

7. Two rectangles drawn

8. Any shape that is not a rectangle drawn

Homework Samples





Lesson 2

Objective: Find and name two-dimensional shapes including trapezoid, rhombus, and a square as a special rectangle, based on defining attributes of sides and corners.

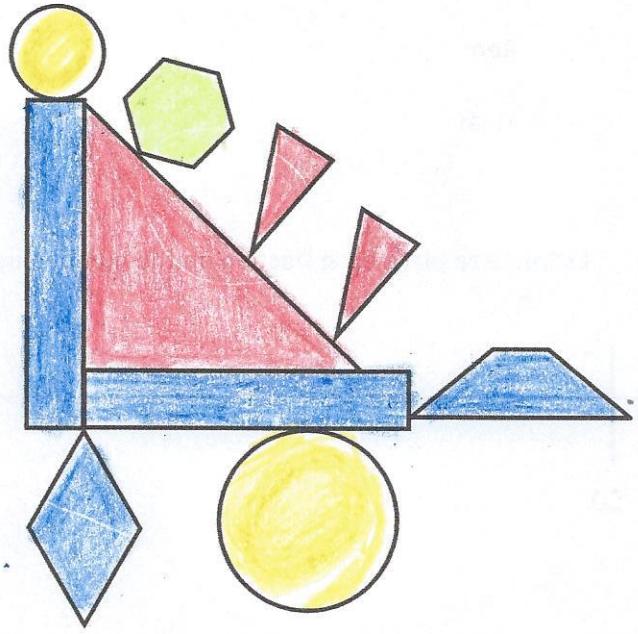
Homework Key

1. 3; 4; 1; 2
2. a. 3;3
   b. 3
3. a. 6;6
   b. 1
4. a. 0;0
   b. 2
5. a. 4; 4
   b. 1
6. a. Fourth shape from left crossed off
   b. Open shape; it only has 3 corners
7. a. Fourth shape from left crossed off
   b. All four sides are not of equal length

Homework Sample

1. Color the shapes using the key. Write the number of shapes you colored on each line.

Key	
RED 3 straight sides:	3
BLUE 4 straight sides:	4
GREEN 6 straight sides:	1
YELLOW 0 straight sides:	2



Lesson 3

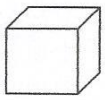
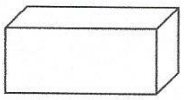
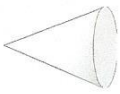
Objective: Find and name three-dimensional shapes including cone and rectangular prism, based on defining attributes of faces and points.

Homework Key (Lesson 3)

1. Answers may vary.
2. Answers may vary.

Homework Sample

1. Go on a scavenger hunt for 3-dimensional shapes. Look for objects at home that would fit in the chart below. Try to find at least four objects for each shape.

Cube 	Rectangular Prism 	Cylinder 	Sphere 	Cone 
dice	Cereal box	Salt Shaker	BALL	ICE CREAM CONE
Kleenex box	box of Crayons	PEPPER SHAKER	GLOBE	Party hat
BLOCK	BOX	SOUP CAN	Exercise Ball	
bar of Soap	ice Cube	CANDLE		

GLASS

Grade 1 Module 5 Topic B

Part-Whole Relationships Within Composite Shapes

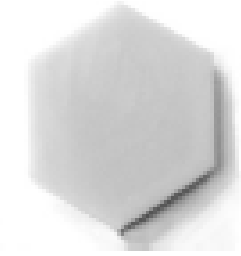
Focus Standards:

1.G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as "right rectangular prism.")

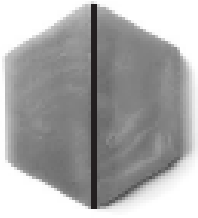
Instructional Days Recommended: 3

In Topic B, students combine shapes to form composite shapes, which in turn get larger as they add yet more shapes. As students work toward the objectives within the topic, they informally explore relationships between parts and wholes.

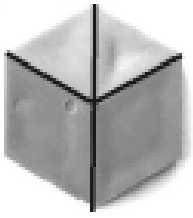
Lessons 4 and 5 build on students' knowledge of attributes of shapes to create composite shapes. In Lesson 4, students create composite shapes (hexagons, rectangles, and trapezoids) from triangles, squares, and rectangles. The students recognize that the same composite shape (whole) can be made from a variety of shapes (parts). For example, a hexagon might be made by composing six triangles or two trapezoids or one trapezoid and three triangles. Students also use square tiles to see that a large rectangle can have many combinations of smaller rectangles within it.



1 hexagon

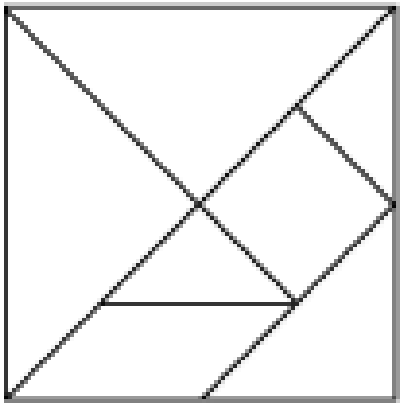


2 trapezoids



2 triangles and
2 rhombuses

In Lesson 5, students begin by identifying the hidden shapes within a large square as they cut the seven tangram pieces from this special rectangle. Students use the pieces to form new shapes from composite shapes, including recomposing the original square. Students explore the variety of ways they can compose new shapes by positioning pieces alongside composite shapes.



For example, students can not only form a larger triangle from two right triangles, but they can also use the shapes to form two composite triangles and push them together to make the original tangram square. Students also see how the same shapes can form different composite shapes. For instance, the same two right triangle pieces that formed a larger triangle can also be repositioned to form a square or parallelogram.

In Lesson 6, students extend their exploration of parts and wholes to three-dimensional shapes. Students create and hide composite shapes and describe the shape to a partner using attributes and positional words. The partner listens and attempts to create the same composite shape. In this way, students attend to the parts within the whole of their created shape and continue to develop clear, precise language.

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 4

Objective: Create composite shapes from two-dimensional shapes.

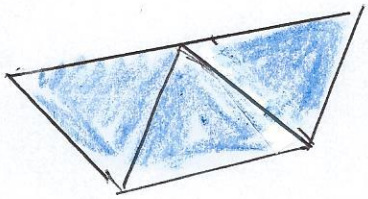
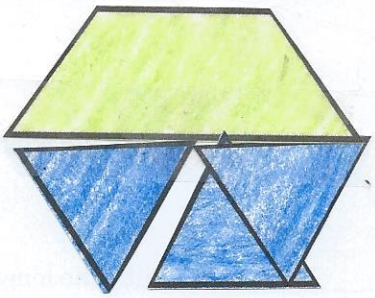
Homework Key

1. Drawing of trapezoid made with 3 blue triangles.
2. Drawing of triangle made with 1 hexagon and 3 triangles.

Homework Samples

Cut out the pattern block shapes from the bottom of the page. Color them to match the key, which is different from the pattern block colors in class. Trace or draw to show what you did.

Hexagon—red	Triangle—blue	Rhombus—yellow	Trapezoid—green

1. Use 3 triangles to make 1 trapezoid.	2. Use 3 triangles to make 1 trapezoid, and then add 1 trapezoid to make 1 hexagon.
	

Lesson 5

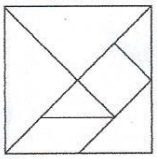
Objective: Compose a new shape from composite shapes.

Homework Key

1. Answers will vary.
2. Answers will vary.
3. a. Triangle made with 2 small triangles drawn.
   b. Trapezoid made with 1 square and 1 triangle drawn.
   c. Answers will vary.
4. Answers will vary.

Homework Samples

1. Cut out all of the tangram pieces from the separate piece of paper you brought home from school. It looks like this:



2. Tell a family member the name of each shape. 5 triangles, 1 square, 1 trapezoid

Lesson 6

Objective: Create a composite shape from three-dimensional shapes and describe the composite shape using shape names and positions.

Homework Key
Answers will vary.

Homework Sample

Grade 1 Module 5 Topic C

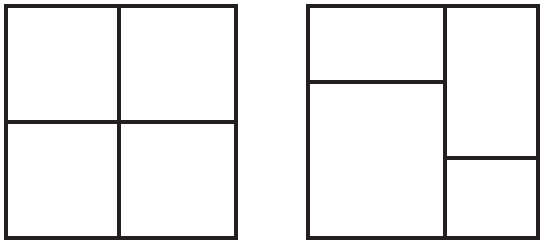
Halves and Quarters of Rectangles and Circles

Focus Standards:

1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves, fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Instructional Days Recommended: 3

During Topic C, students build on their concrete work with composite shapes and begin naming equal parts of wholes, specifically halves and fourths (or quarters). Students more closely analyze the same composite shapes created in Topic B, recognizing composite shapes made from equal, non-overlapping parts and identifying halves and quarters within rectangular and circular shapes.



In Lesson 7, students explore composite shapes that have been made throughout the module and sort them into two categories of shapes, those made from equal parts and those made from non-equal parts. Students count the number of equal parts that form one whole.

Lesson 8 introduces the terms *half* and *quarter*, or *fourths,* to name two equal parts of a whole and four equal parts of a whole, respectively. Students learn *half-circle* and *quarter-circle* as the names of shapes and recognize that they are named for their size and shape in relation to a whole circle. Models of rectangular and circular pizzas are used for students to discuss equal parts of the whole.

In Lesson 9, students explore halves and fourths more deeply as they identify these parts within circles and rectangles of varying size and dimension. Students recognize that as they partition, or decompose, the whole into more equal shares, they create smaller units.

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 7

Objective: Name and count shapes as parts of a whole, recognizing relative sizes of the parts.

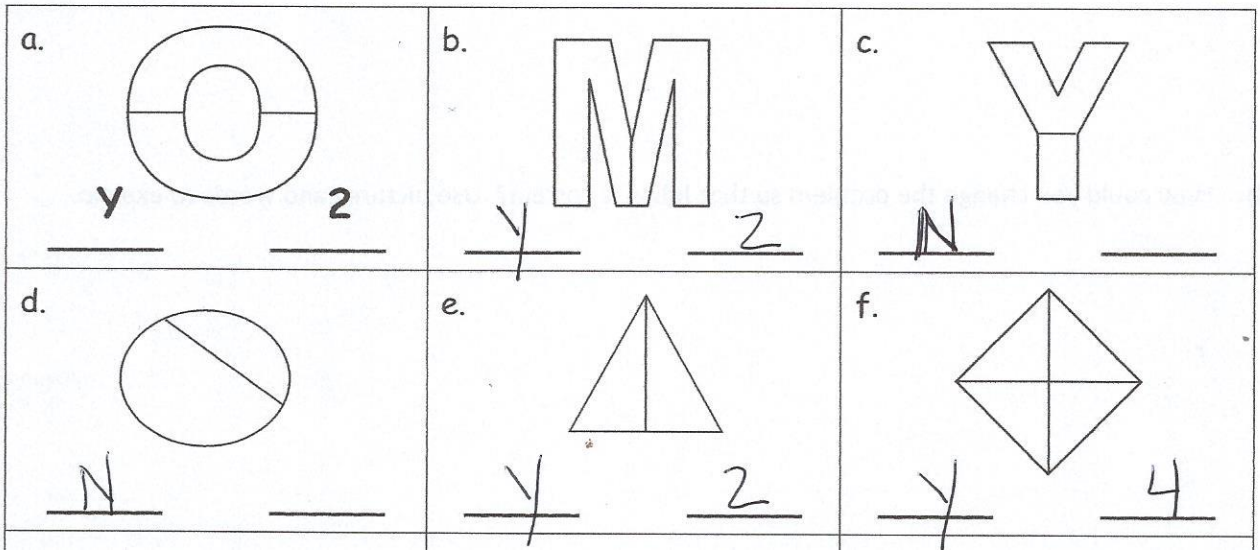
Homework Key

1. a. Answer provided
   b. Y,2
   c. N
   d. N
   e. Y,2
   f. Y,4
   g. Y,2
   h. N
   i. N
   j. Y,2
   k. N
   l. Y,4
   m. Y,6
   n. Y,2
   o. N

2. Line drawn accurately; triangles
3. Line drawn accurately; rectangles
4. Lines drawn accurately; triangles

Homework Sample

1. Are the shapes divided into equal parts? Write **Y** for yes or **N** for no. If the shape has equal parts, write how many equal parts there are on the line. The first one has been done for you.



Lesson 8 and 9

Objective: Partition shapes and identify halves and quarters of circles and rectangles.

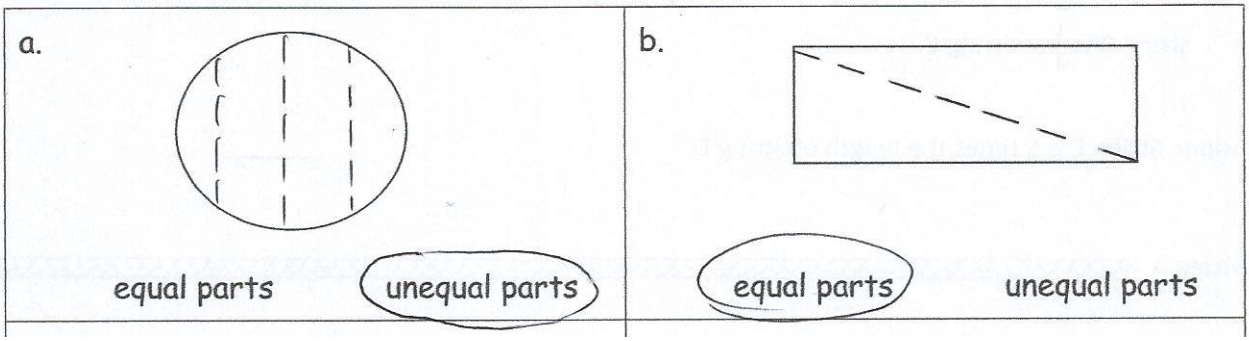
Homework Key (Lesson 8)

1. a. Unequal parts
   b. Equal parts
   c. Halves
   d. Quarters
   e. Quarters
   f. Halves
   g. Quarters
   h. Fourths

2. a. 1 half
   b. 1 quarter
   c. 1 half
   d. 1 half
3. Answers may vary.
4. Answers may vary.

Homework Sample

1. Circle the correct word(s) to tell how each shape is divided.



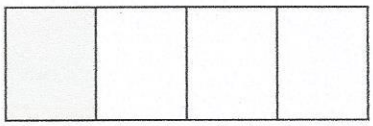
Lesson 9

Homework Key

1. A; B; A
2. a. Half; half
   b. Quarter; half
   c. Quarter; quarter
   d. Half; half
3. a. Is smaller than circled
   b. Is the same size as circled

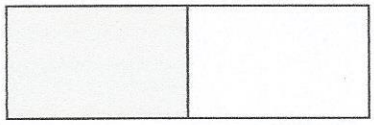
Homework Sample

1. Label the shaded part of each picture as one half of the shape or one quarter of the shape.

A 

Which picture has been cut into more equal parts? A

Which picture has larger equal parts? B

B 

Which picture has smaller equal parts? A

Grade 1 Module 5 Topic D

Application of Halves to Tell Time

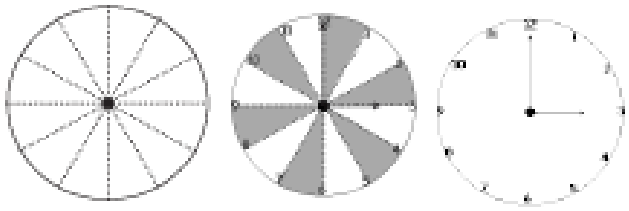
Focus Standards:

1.MD.3 Tell and write time in hours and half-hours using analog and digital clocks. Recognize and identify coins, their names, and their values.

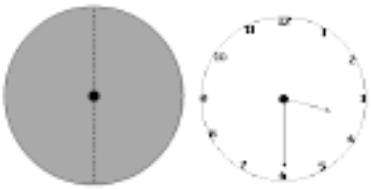
1.G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves, fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Instructional Days Recommended: 4

Topic D builds on students' knowledge of parts of circles to tell time. In Lesson 10, students count and color the parts on a partitioned circle, forming the base of a paper clock. Relating this 12-section circle to the clock, students learn about the hour hand and tell time on both analog and digital clocks.



In Lesson 11, students recognize the two half-circles on the circular clock face and connect this understanding with the half hour. Counting by fives to 30, students see that there are two 30-minute parts that make 1 hour, helping them connect the time displayed on a digital clock with the time displayed on an analog clock. Students notice that the hour hand is halfway through, but still within, the hour section on the partitioned paper clock. They tell time to the half hour on both analog and digital clocks.



Students continue to practice these skills in Lesson 12. In Lesson 13, they extend these new skills to telling time to the hour and half-hour using a variety of analog and digital clock faces.

**The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.*

Lesson 10

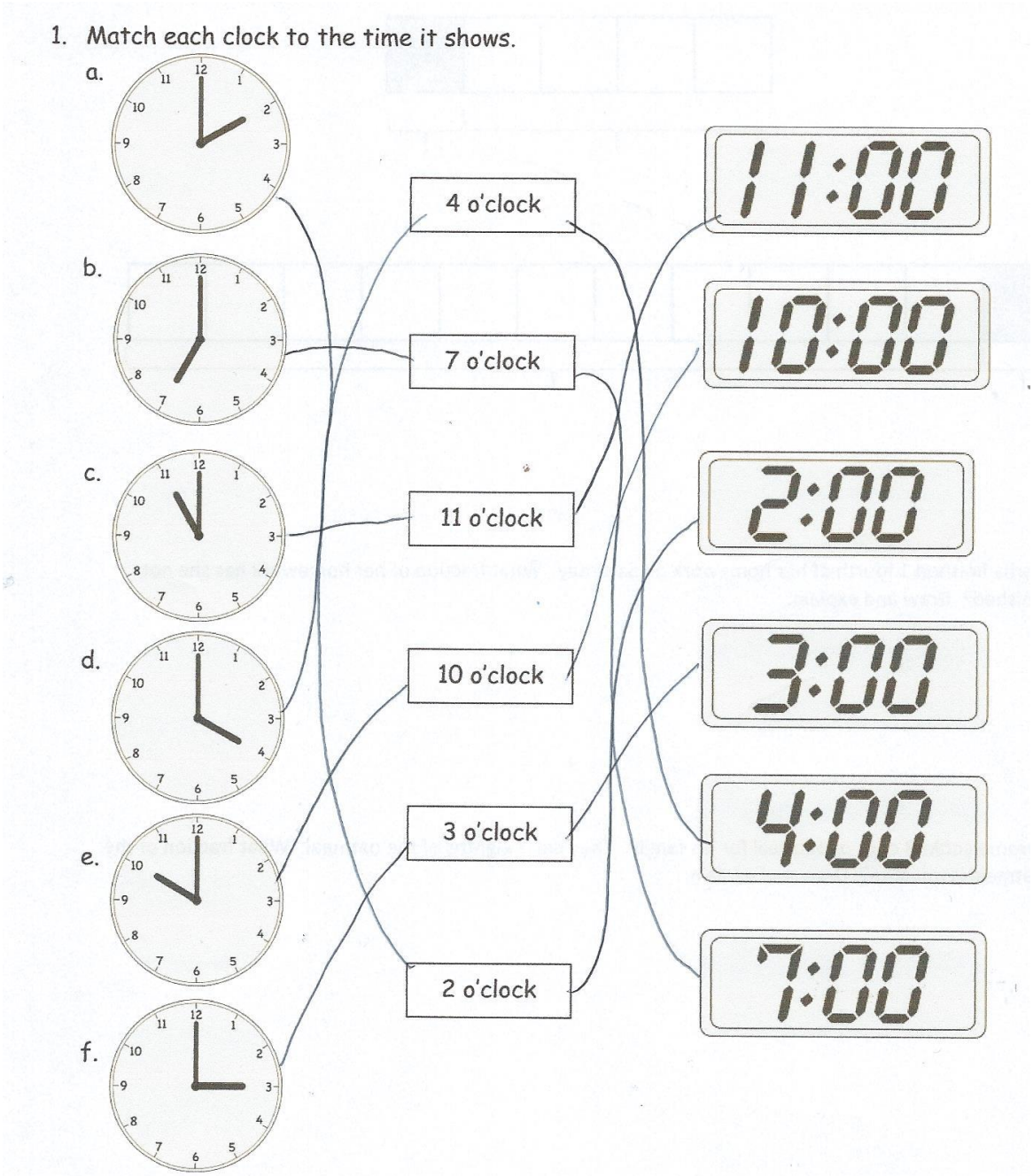
Objective: Construct a paper clock by partitioning a circle and tell time to the hour.

Homework Key

1 a. 2 o'clock, 2:00
b. 7 o'clock, 7:00
c. 11 o'clock, 11:00
d. 4 o'clock, 4:00
e. 10 o'clock, 10:00
f. 3 o'clock, 3:00

2. a. Answer provided
b. Hand pointing to 9, 9:00
c. Hand pointing to 12, 12:00
d. Hand pointing to 7, 7:00
e. Hand pointing to 1, 1:00

Homework Samples



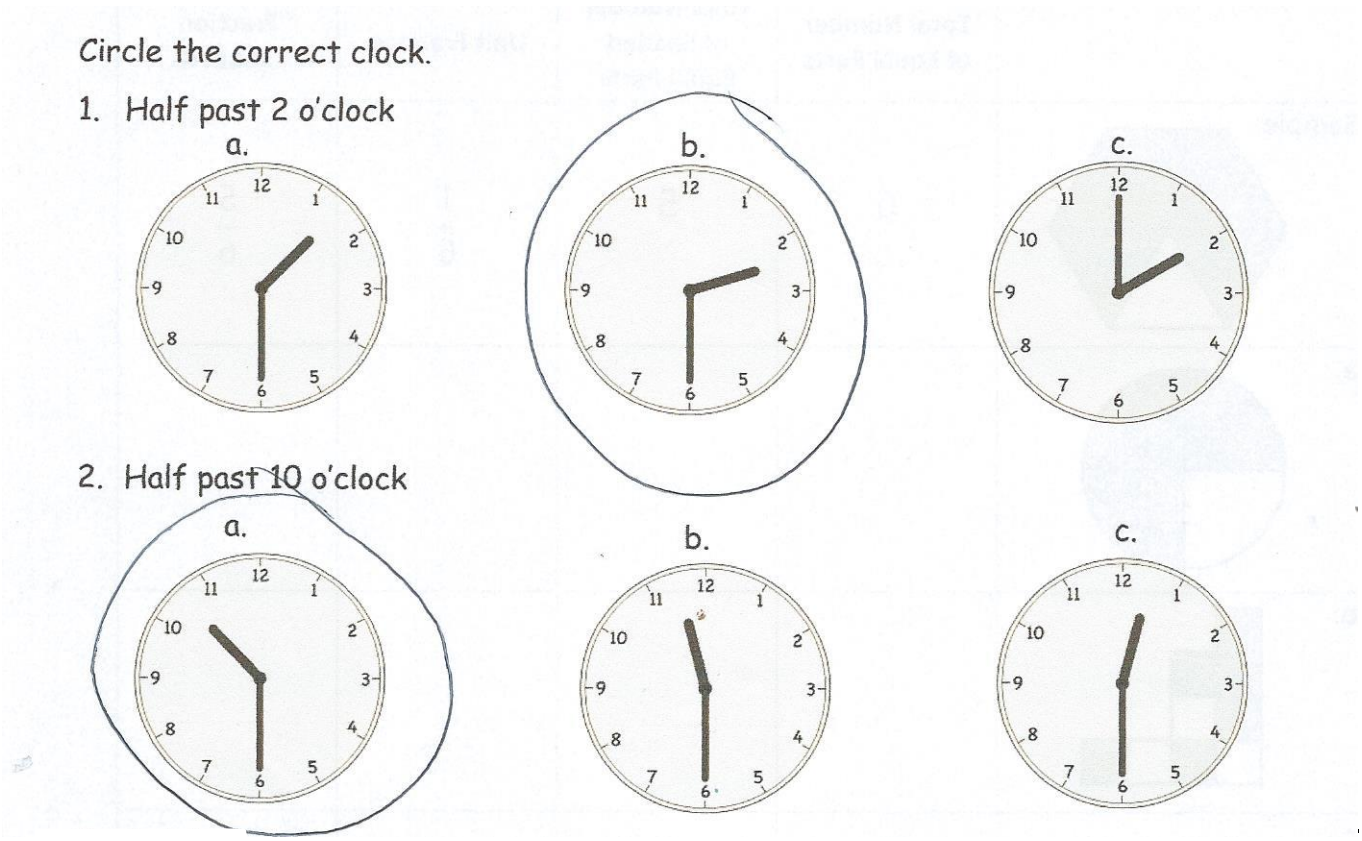
Lesson 11 - 13

Objective: Recognize halves within a circular clock face and tell time to the half hour.

Homework Key (Lesson 11)

1. Clock (b.)
2. Clock (a.)
3. Clock (a.)
4. Clock (b.)
5. 6:30, six thirty, or half past 6 o'clock
6. 7:30, seven thirty, or half past 7 o'clock
7. 10:30, ten thirty or half past 10 o'clock
8. 12:30, twelve thirty, or half past 12 o'clock
9. 3:30, three thirty, or half past 3 o'clock
10. 4:30, four thirty, or half past 4 o'clock
11. 5:30, five thirty, or half past 5 o'clock
12. 7:30, seven thirty, or half past 7 o'clock

Homework Samples

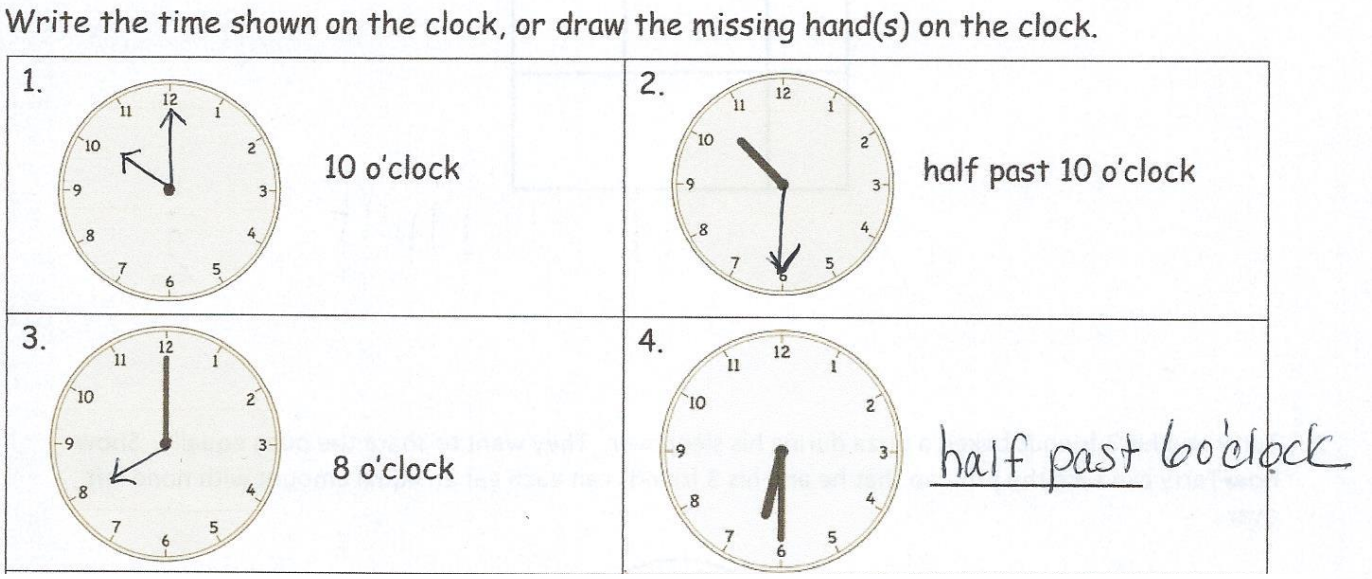


Lesson 12

Homework Key (Lesson 12)

1. Hour hand at 10, minute hand at 12
2. Minute hand at 6
3. Hour hand at 8
4. 6:30 or half past 6 o'clock
5. Hour hand at 3, minute hand at 12
6. Minute hand at 6
7. 2:00 or two o'clock
8. Hour hand between 6 and 7, minute hand At 6
9. Minute hand at 6
10. Hour hand at 4, minute hand at 12
11. a. 3:30 – second clock
    b. 7:30 – sixth clock
    c. 6:00 – fifth clock
    d. 5:30 – first clock
    e. 4:30 – fourth clock
    f. Half past 6 o'clock – third clock

Homework Samples



Lesson 13

Homework Key (Lesson 13)

1. B
2. B
3. A
4. A
5. B
6. a. 1:00 or one o'clock
   b. 11:30, eleven thirty, or half past 11 o'clock
   c. 6:00 or six o'clock
   d. Seven thirty or half past 7 o'clock
   e. 5:30 or half past 5 o'clock
   f. 2:30, two thirty, or half past 2 o'clock
   g. 7:00 or seven o'clock
   h. Eleven o'clock
   9:30, nine thirty, or half past 9 o'clock
7. Clocks (a.) and (d.)

Homework Samples