Grade 2 • MODULE 8
Time, Shapes, and Fractions as Equal Parts of Shapes

Video tutorials:  http://embarc.online
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GRADE 2 • MODULE 8
Time, Shapes, and Fractions as Equal Parts of Shapes

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NOTE: Student sheets should be printed at 100% scale to preserve the intended size of figures for accurate measurements. Adjust copier or printer settings to actual size and set page scaling to none.
Name ____________________________ Date ________________

1. Identify the number of sides and angles for each shape. Circle each angle as you count, if needed.

   a. 
      
      _____ sides
      _____ angles

   b. 
      
      _____ sides
      _____ angles

   c. 
      
      _____ sides
      _____ angles

   d. 
      
      _____ sides
      _____ angles

   e. 
      
      _____ sides
      _____ angles

   f. 
      
      _____ sides
      _____ angles

   g. 
      
      _____ sides
      _____ angles

   h. 
      
      _____ sides
      _____ angles

   i. 
      
      _____ sides
      _____ angles
2. Study the shapes below. Then, answer the questions.

![Shapes](image)

a. Which shape has the most angles? _________

b. Which shape has 4 more angles than shape F? _________

c. Which shape has 5 fewer sides than shape D? _________

d. How many more angles does shape A have than shape B? _________

e. Which of these shapes have the same number of sides and angles? _________

3. Joseph’s teacher said to make shapes with 6 sides and 6 angles on his geoboard. Shade the shapes that share these attributes, and circle the shape that does not belong. Explain why it does not belong.

_______________________________________________________________

_______________________________________________________________

_______________________________________________________________

EUREKA MATH

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1. Count the number of sides and angles for each shape to identify each polygon. The polygon names in the word bank may be used more than once.

   Hexagon  Quadrilateral  Triangle  Pentagon

   a.  
   
   b.  
   
   c.  

   d.  

   e.  

   f.  

   g.  

   h.  

   i.  

   j.  

   k.  

   l.  

   _______________  _______________  _______________  _______________  _______________  _______________  _______________  _______________
2. Draw more sides to complete 2 examples of each polygon.

<table>
<thead>
<tr>
<th></th>
<th>Example 1</th>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a. Quadrilateral</strong>&lt;br&gt;For each example, ___ lines were added.&lt;br&gt;A quadrilateral has ___ total sides.</td>
<td>[Diagram]</td>
<td>[Diagram]</td>
</tr>
<tr>
<td><strong>b. Pentagon</strong>&lt;br&gt;For each example, ___ lines were added.&lt;br&gt;A pentagon has ___ total sides.</td>
<td>[Diagram]</td>
<td>[Diagram]</td>
</tr>
<tr>
<td><strong>c. Triangle</strong>&lt;br&gt;For each example, ___ line was added.&lt;br&gt;A triangle has ___ total sides.</td>
<td>[Diagram]</td>
<td>[Diagram]</td>
</tr>
<tr>
<td><strong>d. Hexagon</strong>&lt;br&gt;For each example, ___ lines were added.&lt;br&gt;A hexagon has ___ total sides.</td>
<td>[Diagram]</td>
<td>[Diagram]</td>
</tr>
</tbody>
</table>

3. Explain why both polygons A and B are pentagons.

________________________________________

________________________________________

4. Explain why both polygons C and D are triangles.

________________________________________

________________________________________
1. Use a straightedge to draw the polygon with the given attributes in the space to the right.

a. Draw a polygon with 4 angles.

   Number of sides: _____
   Name of polygon: __________________

b. Draw a six-sided polygon.

   Number of angles: _____
   Name of polygon: __________________

c. Draw a polygon with 3 angles.

   Number of sides: _____
   Name of polygon: __________________

d. Draw a five-sided polygon.

   Number of angles: _____
   Name of polygon: __________________
2. Use your straightedge to draw 2 new examples of each polygon that are different from those you drew on the first page.

a. Quadrilateral

b. Hexagon

c. Pentagon

d. Triangle
Name _________________________________ Date ________________

1. Use your ruler to draw 2 parallel lines that are not the same length.

2. Use your ruler to draw 2 parallel lines that are the same length.

3. Draw a quadrilateral with two sets of parallel sides. What is the name of this quadrilateral?

4. Draw a quadrilateral with 4 square corners and opposite sides the same length. What is the name of this quadrilateral?
5. A square is a special rectangle. What makes it special?

_________________________________________________________________
_________________________________________________________________

6. Color each quadrilateral with 4 square corners and two sets of parallel sides red.
   Color each quadrilateral with no square corners and no parallel sides blue.
   Color each quadrilateral with one or more sets of parallel sides green.
1. Circle the shapes that could be the face of a cube.

2. What is the most precise name of the shape you circled? ____________

3. How many corners does a cube have? _______

4. How many edges does a cube have? _______

5. How many faces does a cube have? _______

6. Draw 6 cubes, and put a star next to your best one.
7. Connect the corners of the squares to make a different kind of drawing of a cube.

![Diagram of connected squares](image1)

8. Patricia used the image of the cube below to count 7 corners. Explain where the 8th corner is hiding.

![Cube image](image2)

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________
Name ______________________________

1. Identify each polygon labeled in the tangram as precisely as possible in the space below.
   
   a. ________________________
   
   b. ________________________
   
   c. ________________________

2. Use the square and the two smallest triangles to make the following polygons. Draw them in the space provided.

   a. A triangle with 1 square corner.

   b. A quadrilateral with 4 square corners.

   c. A quadrilateral with no square corners.

   d. A quadrilateral with only 1 pair of parallel sides.
3. Rearrange the parallelogram and the two smallest triangles to make a hexagon. Draw the new shape below.

4. Rearrange your tangram pieces to make at least 6 other polygons! Draw and name them below.
Cut out the tangram into 7 puzzle pieces.
1. Solve the following puzzles using your tangram pieces. Draw your solutions in the space below.

   a. Use the two largest triangles to make a square.

   b. Use the two smallest triangles to make a square.

   c. Use the two smallest triangles to make a parallelogram with no square corners.

   d. Use the two smallest triangles to make one larger triangle.

   e. How many equal shares do the larger shapes in Parts (a-d) have?

   f. How many halves make up the larger shapes in Parts (a-d)?

2. Circle the shapes that show halves.
3. Examine the trapezoid.

   a. How many equal shares does the trapezoid have? ________
   b. How many thirds are in the trapezoid? _______

4. Circle the shapes that show thirds.

5. Examine the parallelogram.

   a. How many equal shares does the shape have? ________
   b. How many fourths are in the shape? _______

6. Circle the shapes that show fourths.
1. Name the pattern block used to cover half the rhombus. ________________
   Sketch the 2 pattern blocks used to cover both halves of the rhombus.
   \[
   \begin{array}{c}
   \text{Rhombus}
   \end{array}
   \]

2. Name the pattern block used to cover half the hexagon. ________________
   Sketch the 2 pattern blocks used to cover both halves of the hexagon.
   \[
   \begin{array}{c}
   \text{Hexagon}
   \end{array}
   \]

3. Name the pattern block used to cover 1 third of the hexagon. ________________
   Sketch the 3 pattern blocks used to cover thirds of the hexagon.
   \[
   \begin{array}{c}
   \text{Hexagon}
   \end{array}
   \]

4. Name the pattern block used to cover 1 third of the trapezoid. ________________
   Sketch the 3 pattern blocks used to cover thirds of the trapezoid.
   \[
   \begin{array}{c}
   \text{Trapezoid}
   \end{array}
   \]
5. Draw 2 lines to make 4 squares in the square below.

   [Square diagram]

   a. Shade 1 small square. Each small square is 1 _________ (half / third / fourth) of the whole square.

   b. Shade 1 more small square. Now, 2 _________ (halves / thirds / fourths) of the whole square are shaded.

   c. And 2 fourths of the square is the same as 1 _________ (half / third / fourth) of the whole square.

   d. Shade 2 more small squares. _____ fourths is equal to 1 whole.

6. Name the pattern block used to cover 1 sixth of the hexagon. _______________
   Sketch the 6 pattern blocks used to cover 6 sixths of the hexagon.

   [Hexagon diagram]
1. Circle the shapes that have 2 equal shares with 1 share shaded.

2. Shade 1 half of the shapes that are split into 2 equal shares. One has been done for you.
3. Partition the shapes to show halves. Shade 1 half of each.
Lesson 10 Homework

Name ________________________________ Date _______________

1. Do the shapes below show halves or thirds? ____________

   ![Shapes](image1)

   Draw 1 more line to partition each shape above into fourths.

2. Partition each rectangle into thirds. Then, shade the shapes as indicated.

   ![Rectangles](image2)

   2 thirds  1 third  3 thirds

3. Partition each circle into fourths. Then, shade the shapes as indicated.

   ![Circles](image3)

   1 fourth  3 fourths  4 fourths  2 fourths

Lesson 10: Partition circles and rectangles into equal parts, and describe those parts as halves, thirds, or fourths.
4. Partition and shade the following shapes. Each rectangle or circle is one whole.
   a. 1 half
      ![Circle](image)
   b. 1 fourth
      ![Rectangle](image)
   c. 1 third
      ![Rectangle](image)
   d. 2 fourths
      ![Circle](image)
   e. 2 halves
      ![Rectangle](image)
   f. 2 thirds
      ![Rectangle](image)
   g. 3 thirds
      ![Rectangles](image)
   h. 3 fourths
      ![Circle](image)
   i. 3 halves
      ![Rectangles](image)

5. Split the pizza below so that Shane, Raul, and John all have an equal share. Label each student’s share with his name.

What fraction of the pizza did the boys get in all?
1. For Parts (a), (c), and (e), identify the shaded area.

a. 

Circle the shape above that has a shaded area that shows 1 whole.

b. Circle the shape above that has a shaded area that shows 1 whole.

c. 

Circle the shape above that has a shaded area that shows 1 whole.

d. Circle the shape above that has a shaded area that shows 1 whole.

e. 

Circle the shape above that has a shaded area that shows 1 whole.
2. What fraction do you need to color so that 1 whole is shaded?

   a. 
   b. 
   c. 
   d. 
   e. 
   f. 

3. Complete the drawing to show 1 whole.

   a. This is 1 half. Draw 1 whole.

   b. This is 1 third. Draw 1 whole.

   c. This is 1 fourth. Draw 1 whole.
1. Partition the rectangles in 2 different ways to show equal shares.

   a. 2 halves

   b. 3 thirds

   c. 4 fourths

   d. 2 halves

   e. 3 thirds

   f. 4 fourths
Lesson 12 Homework

2. **Cut out the square at the bottom of this page.**
   
   a. **Cut the square in half to make 2 equal size rectangles.** Shade 1 half using your pencil.
   
   b. **Rearrange the halves to create a new rectangle with no gaps or overlaps.**
   
   c. **Cut each equal part in half to make 4 equal size squares.**
   
   d. **Rearrange the new equal shares to create different polygons.**
   
   e. **Draw one of your new polygons from Part (d) below. One half is shaded!**
1. Tell what fraction of each clock is shaded in the space below using the words *quarter*, *quarters*, *half*, or *halves*.

2. Write the time shown on each clock.

   a. 
   
   b. 
   
   c. 
   
   d. 

Lesson 13 Homework

A STORY OF UNITS

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Lesson 13: Construct a paper clock by partitioning a circle into halves and quarters, and tell time to the half hour or quarter hour.
3. Match each time to the correct clock by drawing a line.

- Quarter to 5

- Half past 5

- 5:15

- Quarter after 5

- 4:45

4. Draw the minute hand on the clock to show the correct time.

- 3:30

- 11:45

- 6:15
1. Fill in the missing numbers.

0, 5, 10, _____, _____, _____, _____, 35, _____, _____, _____, _____, _____, _____, 45, 40, _____, _____, 20, 15, _____, _____

2. Fill in the missing minutes on the face of the clock.

3. Draw the minute hands on the clocks to match the correct time.

3:25
7:15
9:55
4. Draw the hour hands on the clocks to match the correct time.

- 12:30
- 10:10
- 3:45

5. Draw the hour and minute hands on the clocks to match the correct time.

- 6:55
- 1:50
- 8:25
- 4:40
- 7:45
- 2:05

6. What time is it?
Lesson 15 Homework

Name ____________________________ Date ______________

1. Decide whether the activity below would happen in the a.m. or the p.m. Circle your answer.

<table>
<thead>
<tr>
<th>Activity</th>
<th>a.m. / p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Eating breakfast</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>b. Doing homework</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>c. Setting the table for dinner</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>d. Waking up in the morning</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>e. After-school dance class</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>f. Eating lunch</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>g. Going to bed</td>
<td>a.m. / p.m.</td>
</tr>
<tr>
<td>h. Heating up dinner</td>
<td>a.m. / p.m.</td>
</tr>
</tbody>
</table>

2. Write the time displayed on the clock. Then, choose whether the activity below would happen in the a.m. or the p.m.

a. Brushing your teeth before school

b. Eating dessert after dinner

_____ : ____ a.m. / p.m.

_____ : ____ a.m. / p.m.

Lesson 15: Tell time to the nearest five minutes; relate a.m. and p.m. to time of day.
3. Draw the hands on the analog clock to match the time on the digital clock. Then, circle a.m. or p.m. based on the description given.

   a. Brushing your teeth before bedtime
   
   [Analog clock showing 8:15]
   
   8:15 a.m. or p.m.

   b. Recess after lunch
   
   [Analog clock showing 12:30]
   
   12:30 a.m. or p.m.

4. Write what you might be doing if it were a.m. or p.m.

   a. a.m. ____________________________

   b. p.m. ____________________________

   c. a.m. ____________________________

   d. p.m. ____________________________
1. How much time has passed?
   a. 2:00 p.m. → 8:00 p.m.  
   b. 7:30 a.m. → 12:00 p.m. (noon)  
   c. 10:00 a.m. → 4:30 p.m.  
   d. 1:30 p.m. → 8:30 p.m.  
   e. 9:30 a.m. → 2:00 p.m.  
   f. [Clock images]  
   g. [Clock images]  
   h. [Clock images]
2. Solve.
   a. Kylie started basketball practice at 2:30 p.m. and finished at 6:00 p.m. How long was Kylie at basketball practice?
   
   b. Jamal spent 4 and a half hours at his family picnic. It started at 1:30 p.m. What time did Jamal leave?
   
   c. Christopher took 2 hours doing his homework. He finished at 5:30 p.m. What time did he start his homework?
   
   d. Henry slept from 8 p.m. to 6:30 a.m. How many hours did Henry sleep?