Response to Intervention
FOR THE COMMON CORE STATE STANDARDS FOR MATHEMATICS

GRADE 2

INCLUDES
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Geometry

Reason with shapes and their attributes.

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Three-dimensional objects come in different shapes.

<table>
<thead>
<tr>
<th>sphere</th>
<th>cone</th>
<th>cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td>rectangular prism</td>
<td></td>
<td>cube</td>
</tr>
</tbody>
</table>

Circle the objects that match the shape name.

1. rectangular prism
2. cylinder
3. cone
Three-Dimensional Shapes
Circle the objects that match the shape name.

1. cube
   ![cube]  ![soup can]  ![cube]

2. cone
   ![cone]  ![gift]  ![teepee]

3. rectangular prism
   ![cereal box]  ![soccer ball]  ![orange]

4. cylinder
   ![cereal box]  ![peanut butter]  ![party hat]

Problem Solving

5. Lisa draws a circle by tracing around the bottom of a block. Which could be the shape of Lisa’s block? Circle the name of the shape.
   - cone
   - cube
   - rectangular prism
Two sides meet at an edge. A vertex is a corner. A face is a flat side.

<table>
<thead>
<tr>
<th></th>
<th>faces</th>
<th>edges</th>
<th>vertices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>cube</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>2.</td>
<td>rectangular prism</td>
<td>6</td>
<td>12</td>
</tr>
</tbody>
</table>
Attributes of Three-Dimensional Shapes

Circle the set of shapes that are the faces of the three-dimensional shape.

1. rectangular prism

2. cube

3. rectangular prism

Problem Solving

4. Kevin keeps his marbles in a container that has the shape of a cube. He wants to paint each face a different color. How many different paint colors does he need? 

   6 different paint colors
Count sides and vertices.
A pentagon has 5 sides. A hexagon has 6 vertices.

Write the number of sides and the number of vertices.

1. triangle
   - 3 sides
   - 3 vertices

2. rectangle
   - 4 sides
   - 4 vertices

3. quadrilateral
   - 4 sides
   - 4 vertices

4. pentagon
   - 5 sides
   - 5 vertices
Two-Dimensional Shapes

Write the number of sides and the number of vertices. Then write the name of the shape.

1. \[ \begin{align*}
\text{3 sides} & \quad \text{3 vertices} \\
\text{triangle} 
\end{align*} \]

2. \[ \begin{align*}
\text{6 sides} & \quad \text{6 vertices} \\
\text{hexagon} 
\end{align*} \]

3. \[ \begin{align*}
\text{5 sides} & \quad \text{5 vertices} \\
\text{pentagon} 
\end{align*} \]

4. \[ \begin{align*}
\text{4 sides} & \quad \text{4 vertices} \\
\text{quadrilateral} 
\end{align*} \]

5. \[ \begin{align*}
\text{5 sides} & \quad \text{5 vertices} \\
\text{pentagon} 
\end{align*} \]

6. \[ \begin{align*}
\text{4 sides} & \quad \text{4 vertices} \\
\text{quadrilateral} 
\end{align*} \]

Problem Solving

Solve. Draw or write to explain.

7. Oscar is drawing a picture of a house. He draws a pentagon shape for a window. How many sides does his window have? \[ \text{5 sides} \]
Two sides meet and form an angle.

There are _____ angles in a square.

Circle the angles in each shape. Write how many.

1. 

2. 

3. 

____ angles

____ angles

____ angles
Angles in Two-Dimensional Shapes

Circle the angles in each shape. Write how many.

1. ______ angles
2. ______ angles
3. ______ angles
4. ______ angles

Problem Solving  
Check children’s shapes.

5. Logan drew 2 two-dimensional shapes that had 8 angles in all. Draw shapes Logan could have drawn.
Circle the shapes with 5 sides.

- 4 sides
- 3 sides
- 5 sides
- 6 sides

Circle the shapes with fewer than 5 angles.

- 3 angles
- 6 angles
- 4 angles
- 5 angles

Circle the shapes that match the rule.

1. Shapes with 4 sides
   - 
   - 
   - 
   - 

2. Shapes with more than 4 angles
   - 
   - 
   - 
   - 

OBJECTIVE Sort two-dimensional shapes according to their attributes.
Sort Two-Dimensional Shapes

Circle the shapes that match the rule.

1. Shapes with fewer than 5 sides
   - Hexagon
   - Pentagon

2. Shapes with more than 4 sides
   - Octagon
   - Square

3. Shapes with 4 angles
   - Rectangle
   - Square

4. Shapes with fewer than 6 angles
   - Triangle
   - Pentagon

Problem Solving

Circle the correct shape.

5. Tammy drew a shape with more than 3 angles.
   It is not a hexagon. Which shape did Tammy draw?

   - Triangle
   - Octagon
   - Trapezoid
   - Pentagon
Partition Rectangles

OBJECTIVE Partition rectangles into equal-size squares and find the total number of these squares.

How many color tiles cover this rectangle?

Make a row of color tiles on the rectangle. Trace around the square tiles.

How many squares? 3 squares

Use color tiles to cover the rectangle. Trace around the square tiles. Write how many.

1. Number of rows: 2
   Number of columns: 2
   Total: 4 squares

2. Number of rows: 3
   Number of columns: 1
   Total: 3 squares
Partition Rectangles
Use color tiles to cover the rectangle. Trace around the square tiles. Write how many.

1. Number of rows: ___2___
   Number of columns: ___3___
   Total: ___6___ square tiles

2. Number of rows: ___1___
   Number of columns: ___2___
   Total: ___2___ square tiles

Problem Solving

Solve. Write or draw to explain.

3. Nina wants to put color tiles on a square. 3 color tiles fit across the top of the square. How many rows and columns of squares will Nina need? How many color tiles will she use in all?

   Number of rows: ___3___
   Number of columns: ___3___
   Total: ___9___ square tiles

   ___9___ tiles
You can divide a whole into equal parts.

2 equal parts
halves

3 equal parts
thirds

4 equal parts
fourths

Write how many equal parts there are in the whole. Write halves, thirds, or fourths to name the equal parts.

1. 4 equal parts
fourths

2. 2 equal parts
halves

3. 3 equal parts
thirds

4. 2 equal parts
halves

5. 3 equal parts
thirds

6. 4 equal parts
fourths
Equal Parts
Write how many equal parts there are in the whole. Write halves, thirds, or fourths to name the equal parts.

1. 4 equal parts fourths
2. 2 equal parts halves
3. 3 equal parts thirds

4. 3 equal parts thirds
5. 2 equal parts halves
6. 4 equal parts fourths

Problem Solving

7. Sort the shapes.
   • Draw an X on the shapes that do not show equal parts.
   • Circle the shapes that show halves.
Show Equal Parts of a Whole

**OBJECTIVE** Partition shapes to show halves, thirds, or fourths.

Trace to show the equal parts.

- 2 equal parts
- 3 equal parts
- 4 equal parts

2 halves
3 thirds
4 fourths

Draw to show equal parts. Check children’s drawings.

1. halves
   ![Diagram of a square divided into two equal parts]

2. thirds
   ![Diagram of a rectangle divided into three equal parts]

3. halves
   ![Diagram of a circle divided into two equal parts]

4. fourths
   ![Diagram of a square divided into four equal parts]
Show Equal Parts of a Whole

Draw to show equal parts. Check children’s drawings.

1. halves
   - [Circle]
2. fourths
   - [Rectangle]
3. thirds
   - [Square]
4. thirds
   - [Rectangle]
5. halves
   - [Circle]
6. fourths
   - [Circle]
7. fourths
   - [Rectangle]
8. halves
   - [Circle]
9. thirds
   - [Rectangle]

Problem Solving

Solve. Write or draw to explain.

10. Joe has one sandwich. He cuts the sandwich into fourths. How many pieces of sandwich does he have?
   - ____ pieces
Describe Equal Parts

OBJECTIVE Identify and describe one equal part as a half of, a third of, or a fourth of a whole.

One equal part of each shape is shaded.

A half of the shape is shaded.

A third of the shape is shaded.

A fourth of the shape is shaded.

Draw to show halves.
Color a half of the shape.  
Check children’s work.

1.

2.

Draw to show fourths.
Color a fourth of the shape.  
Check children’s work.

3.

4.
Describe Equal Parts

Draw to show halves.
Color a half of the shape.  Check children’s work.

1.  

2.  

Draw to show thirds.
Color a third of the shape.

3.  

4.  

Draw to show fourths.
Color a fourth of the shape.

5.  

6.  

Problem Solving

7.  Circle all the shapes that have a third of the shape shaded.
Two gardens are the same size. Each garden is divided into halves, but the gardens are divided differently. How might the gardens be divided?

Unlock the Problem

What do I need to find?  
how the gardens are divided

What information do I need to use?  
There are ____ gardens.  
Each garden is divided into ____ halves.

Show how to solve the problem.

Draw to show your answer.  
Possible answers are given.

1. Sophie has two pieces of paper that are the same size. She wants to divide each piece into fourths. What are two different ways she can divide the pieces of paper?

   Possible answers are given.
Problem Solving • Equal Shares

Draw to show your answer. Check children’s work. Possible answers are given.

1. Max has square pizzas that are the same size.
   What are two different ways he can divide the pizzas into fourths?

2. Lia has two pieces of paper that are the same size.
   What are two different ways she can divide the pieces of paper into halves?

3. Frank has two crackers that are the same size.
   What are two different ways he can divide the cracker into thirds?