Targeted Strategic Intervention

Each chapter includes:

- Prescriptive targeted strategic intervention charts.
- Student activity pages aligned to the Common Core State Standards.
- Complete lesson plan pages with lesson objectives, getting started activities, teaching suggestions, and questions to check student understanding.
Based on student performance on *Am I Ready?*, *Check My Progress*, and *Review*, use these charts to select the strategic intervention lessons found in this packet to provide remediation.

### Am I Ready?

<table>
<thead>
<tr>
<th>If Students miss Exercises…</th>
<th>Then use this Strategic Intervention Activity…</th>
<th>Concept</th>
<th>Where is this concept in <em>My Math?</em></th>
</tr>
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<tr>
<td>1-4</td>
<td>12-A: Classify Polygons</td>
<td>Attributes of polygons</td>
<td>Prep for 5.G.3</td>
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<td>Draw triangles</td>
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<th>Concept</th>
<th>Where is this concept in <em>My Math?</em></th>
</tr>
</thead>
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<tr>
<td>5-6</td>
<td>12-D: Identify Polygons</td>
<td>Polygons</td>
<td>5.G.3, 5.G.4</td>
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<td>7-8</td>
<td>12-E: Measure Centimeters</td>
<td>Measure side lengths of triangles</td>
<td>5.G.3, 5.G.4</td>
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<table>
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<tr>
<th>If Students miss Exercises…</th>
<th>Then use this Strategic Intervention Activity…</th>
<th>Concept</th>
<th>CCSS</th>
<th>Where is this concept in My Math?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-8</td>
<td>12-F: Sides of Polygons</td>
<td>Attributes of quadrilaterals</td>
<td>5.G.3, 5.G.4</td>
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<td>9-10</td>
<td>12-G: Match the Face of Three-Dimensional Figures</td>
<td>Attributes of three-dimensional shapes</td>
<td>Prep for 5.MD.3</td>
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## Review

<table>
<thead>
<tr>
<th>If Students miss Exercises…</th>
<th>Then use this Strategic Intervention Activity…</th>
<th>Concept</th>
<th>CCSS</th>
<th>Where is this concept in My Math?</th>
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<tr>
<td>13-14</td>
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<td>Classify polygons</td>
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<td>15-16</td>
<td>12-I: Congruent Figures</td>
<td>Describe and classify quadrilaterals</td>
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<td>Describe and classify quadrilaterals</td>
<td>5.G.3, 5.G.4</td>
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<td>17-18</td>
<td>12-K: Faces of Three-Dimensional Figures</td>
<td>Describe and identify three-dimensional figures</td>
<td>Prep for 5.MD.3</td>
<td>Chapter 12, Lesson 7</td>
</tr>
</tbody>
</table>
Classify Polygons

**Learn**

What Can I Do?
I want to tell what a group of shapes has in common.

Count how many sides. Count how many angles.

Each shape has 4 sides. Each shape has 4 angles.

Count how many sides. Count how many angles.

Each shape has 3 sides. Each shape has 3 angles.

**Try It** Circle the shape that does not belong.

1. 

   ![Triangle](triangle.png) ![Square](square.png) ![Triangle](triangle.png)

2. 

   ![Square](square.png) ![Circle](circle.png) ![Rectangle](rectangle.png)
Name ________________________________

**Power Practice**  Circle the shape that does not belong.

3.  
   - Circle
   - Octagon
   - Circle

4.  
   - Triangle
   - Triangle
   - Pentagon

5.  
   - Diamond
   - Hexagon
   - Rectangle

6.  
   - Circle
   - Square
   - Rectangle
Lesson Goal
• Identify what a group of shapes has in common.

What the Student Needs to Know
• Draw a shape.
• Sort shapes.

Getting Started
• First find out what students know about a shape’s sides and angles. Draw a square on the board. Point out the square’s four sides. Point out the square’s angles. Have the students help to count the square’s four angles.
• Now draw a rectangle. Explain to students that both the rectangle and the square have four sides and four angles.
• Draw a triangle on the board. Ask the students to explain how the triangle is different from the square and the rectangle. (The triangle has three sides and three angles.)
• Now draw a circle on the board. Ask the students to explain how the circle is different from the other shapes they’ve explored. (The circle has no sides or angles.)

What Can I Do?
• Read the first example. Then ask: How are the shapes alike? (They all have four sides and four angles.)
• Read the second example. Then ask: How are these shapes alike? (They all have three sides and three angles.)

What if the Student Needs Help to

Draw a Shape
• Have the student listen as you give instructions to draw a shape. Say, “The shape has 3 sides and 3 angles.” Review the student’s drawing. Encourage the student to draw another shape that also has 3 sides and 3 angles.
• Have students work in pairs, taking turns giving each other instructions to draw specific shapes.

Sort Shapes
• Prepare various shapes having 3, 4, 5, 6, or 8 sides and a few circles. Have the student explore the shapes. Ask him or her to sort the shapes into groups that have the same number of sides and angles. Then have the student put aside any shapes that do not belong.
• Have the student work with a partner. The students will take turns making groups of three shapes with two like shapes and one shape that does not belong in the group.
**Try It**

Have students look at Exercise 1. Ask:

- *Which of these shapes does not belong?* (the square) Why not? (It has 4 sides and 4 angles and the other shapes have 3 sides and 3 angles.)
- Have students complete Exercise 2. Have volunteers explain why the shape does not belong in the group.

**Power Practice**

- Have students complete the practice exercises. Review each answer.
- Select several of the exercises. Have volunteers explain why the shape does not belong.

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**WHAT IF THE STUDENT NEEDS HELP TO**

**Complete the Power Practice**

- Discuss each incorrect answer. For each group of shapes have the student count and write down the number of sides and angles of each shape. Then have him or her cross out the shape that does not match the number of sides and angles of the other shapes in the group.
- Remind the student that circles have no sides or angles.
Identify Sides and Angles

**Learn**

Trace the sides. Count as you go.

A triangle has 3 sides.

An angle is the place where two sides meet. Make an X on each angle. Then count.

A triangle has 3 angles.

**Try It**

Write the number of sides. Trace the sides. Write the number of angles. Make Xs on each angle.

1. 

   ... 

   ____ sides
   ____ angles

2. 

   ... 

   ____ sides
   ____ angles

**Power Practice**

Write the number of sides. Write the number of angles.

3. 

   ... 

   ____ sides
   ____ angles

4. 

   ... 

   ____ sides
   ____ angles

5. 

   ... 

   ____ sides
   ____ angles
Lesson Goal
- Identify the number of sides and angles in a two-dimensional shape.

What the Student Needs to Know
- Trace around a shape.
- Recognize and count angles and sides of a shape.

Getting Started
Draw a rectangle on the board. Ask:
- Does this shape have sides? How can I find out the number of sides? (trace or number the sides and count them)
- Demonstrate numbering the sides in a clockwise order. Count as you write the numbers.
- Draw a square on the board and have a volunteer number the sides. Repeat with a triangle.

What Can I Do?
Read the question and the response. Then read and discuss the examples. Ask:
- What is true about a triangle’s sides and angles? (There are the same number of sides as angles.)
- Why might it be useful to make Xs on angles before counting? (to make sure you count all the angles)

Try It
- Remind students to trace around the object and make Xs on the angles before recording the answers. Have students number the sides, if needed.

Power Practice
- Tell students they may use either strategy to complete Exercises 3–5.
- You may wish to identify Exercise 3 as a parallelogram and Exercise 5 as a pentagon.
- Have students complete the practice items. Then review each answer.

WHAT IF THE STUDENT NEEDS HELP TO

Trace Around a Shape
- Have the student practice tracing the letters of the alphabet on lined paper.
- Provide a variety of dotted shapes. Have the student demonstrate how to trace the shape without lifting the pencil.
- Draw another shape on the board. This time, have the student number the angles.
- Remind him or her to move around the shape in a clockwise direction until all angles have been numbered. Then ask the student to count the angles.

Recognize and Count Angles and Sides of a Shape
- Draw a shape on the board and number its angles in a clockwise order. Have the student count the angles and the sides.
- Have the student count sides and angles of shapes in front of you so you can make sure he or she is not omitting sides or angles while counting.
Name ________________________________

Triangles

Connect the dots. Circle the name of the shape.
1. 

triangle

circle

Draw an X on the triangles.
2. 

triangle
circle

Find the triangle in the picture. Color it.
3. 4. 5.
Lesson Goal
• Identify triangles and describe their characteristics.

What the Student Needs to Know
• Understand “tri” in triangle.
• Model a triangle.

Getting Started
• Draw a triangle on the board.
• Tell students a triangle has three sides. Count 1, 2, 3 as you number each side.
• Tell students a triangle has three angles. Count 1, 2, 3 as you trace each angle.
• Show how to make a triangle by using both hands and touching your index fingers and thumbs. Have students practice making a triangle with their hands.
• Then ask students to point out examples of triangles in the classroom.

Teach
Read and discuss Exercise 1 at the top of the page.
• Start at point A. Follow the line to connect point A to point B.
• What letter should you connect point B to? (point C)
• Connect point B to point C.
• Finish connecting the dots by connecting point C to point A.
• Did we make a triangle or circle? (triangle) How can you tell the shape is a triangle? (The shape has three angles and three sides.)
• How can you tell it is not a circle? (A circle has zero angles and zero sides.)

Practice
• Read the directions as students complete Exercises 2 through 5.
• Check student work.
• If students have difficulty with the activity, work with them to use three craft sticks to practice modeling triangles with three sides and three angles.

What If the Student Needs Help To

Understand “Tri” in Triangle
• Write the word triangle on the board, and underline “tri.”
• Show a photo of a tricycle. Ask the student: “How many wheels does this tricycle have?” (3)
• Explain that “tri” means “three.”
• Have the student say: “A triangle has three sides and three angles.”

Model a Triangle
• Have students stand in groups of three about two feet apart.
• Have students extend their arms out straight by their side and touch only each others’ fingertips.
• Explain that they have formed a triangle.
• Their arms are the “sides” and the points in which they touch fingertips are the “angles.”
• Students not in a group of three can count the sides and angles aloud.
• Next, have students practice modeling triangles with three sides and three angles on geoboards.
Name __________________________

Identify Polygons

<table>
<thead>
<tr>
<th></th>
<th>hexagon</th>
<th>pentagon</th>
<th>quadrilateral</th>
<th>triangle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>quadrilateral</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>triangle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>hexagon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>pentagon</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Color the polygon.
Lesson Goal
• Identify two-dimensional polygons.

What the Student Needs to Know
• Find and classify shapes.
• Identify triangles, quadrilaterals, pentagons, and hexagons.

Getting Started
• Draw and label a triangle, quadrilateral, pentagon, and hexagon on the board.
  • A triangle has three sides. Count the sides aloud. If the triangle has three sides, how many angles does it have? (three)
  • What shape has four sides? (the quadrilateral) Count the sides aloud. How many angles does the quadrilateral have? (four)
• Continue to count the sides and angles for the pentagon (5) and hexagon (6) with students.

Teach
Read and discuss the example at the top of the page.
• Have students draw a triangle, quadrilateral, pentagon, and hexagon. (Provide a cardboard cut-out for students to trace if they need help drawing any shapes.)
• Then have students cut out each shape. Help students write the names of the figures on the cutouts.
• Next, have students place the polygons in front of them.
• Call out a name of a polygon. Have students hold up the correct shape. Then have students check the name and say it aloud.

Practice
• Have students read the directions and complete Exercises 1 through 4. Check their work.

Find and Classify Shapes
• Have the student find two-dimensional objects in the classroom to represent the figures: triangle, quadrilateral, pentagon, and hexagon.
• After locating the object, have the student name the figure and the location.

Identify Triangles, Quadrilaterals, Pentagons, and Hexagons
• Give each pair of students eight index cards. Have one student draw a triangle, quadrilateral, pentagon, and hexagon on four of the cards. Have another student write the respective names on the other four index cards.
• Students will place the cards facedown and turn over cards to try to make a match with a picture and name of a figure.
Measure Centimeters

Measure each object using centimeters.

1. The box is ______ centimeters long.

2. The box is ______ centimeters long.

3. The box is ______ centimeters long.
Lesson Goal
• Measure length in centimeters.

What the Student Needs to Know
• Identify the markings on a centimeter ruler.

Getting Started
• Give each student a ruler with inch and centimeter markings.
• Most rulers are marked with inches and centimeters and are used to measure objects.
• How are the inches and centimeters alike? (They are both used to measure.)
• How many inches are on a ruler? (12)
• How many centimeters are on a ruler? (30)
• How are inches and centimeters different? (One inch is longer than one centimeter.)

Teach
Read and discuss the example at the top of the page.
• In Example 1, we are measuring the length of a box.
• What tool can we use to measure the length? (a ruler)
• Are we measuring in inches or centimeters? (centimeters)
• How can you tell we are measuring in centimeters? (The ruler has centimeters written on it.)
• What number does the left side of the box start at? (zero)
• What number does the right side of the box end at? (five)
• How many centimeters long is the box? (five centimeters)

Practice
• Have students complete Exercises 2 and 3.
• Check student work.
• If students have difficulty with the activity, have them measure using a ruler.

Identify the Markings on a Centimeter Ruler
• Point out that centimeters are numbered from 0 to 30 on a ruler.
• The longest marks on the centimeter ruler show whole number centimeters.
• Tell students that the shortest markings on the centimeter ruler show millimeters.
• The slightly longer mark between two consecutive numbers is the 5 millimeter mark. This mark is halfway between any two centimeter measures.
• Name a centimeter marking and have students point it out. For example: Locate the 8 centimeter mark on your ruler.
Sides of Polygons

Count the sides of each polygon. Determine if the sides are congruent.

1. ______ sides
   Are the sides congruent? _____

2. ______ sides
   Are the sides congruent? _____

3. ______ sides
   Are the sides congruent? _____

4. ______ sides
   Are the sides congruent? _____

5. ______ sides
   Are the sides congruent? _____

6. ______ sides
   Are the sides congruent? _____
Lesson Goal
• Count the sides of a polygon and determine if they are congruent.

What the Student Needs to Know
• Identify lines as the same length or different length.

Getting Started
• Draw a square with equal sides on the board. Use a different color marker to represent each side of the square.
• Use your finger to trace over each side as students count along with you. How many sides does the polygon have? (4)
• This polygon is congruent because all the sides are the same length.
• Give each student a geoboard.
• Have students create a square with equal sides. Instruct them to use a different color rubber band for each side.
• Continue to have students model additional congruent and not congruent polygons on their geoboard.

Teach
Read and discuss Exercise 1 at the top of the page.
• Take a look at the polygon in Exercise 1. Use a crayon and trace each side with a different color.
• How many sides does the polygon have? (4)
• Are all of the sides equal in length? (no) How can you tell? (Sample answer: The top and bottom are the same length and the right and left sides are the same length. The top and bottom length is different from the length of the right and left sides.)
• Is the polygon congruent? (no)

Practice
• Have students complete Exercises 2 through 6. Check student work.

Identify Lines as the Same Length or Different Length
• Have the student draw a 2 centimeter line.
• Is the 2 centimeter line the same length or different length as the line that is 6 centimeters long? (different) Why? (The line that is 2 centimeters long is shorter than the line that is 6 centimeters long.)
• Continue to have the student provide additional examples of lines that are the same and different length.

WHAT IF THE STUDENT NEEDS HELP TO

Name __________________________

Sides of Polygons
Count the sides of each polygon. Determine if the sides are congruent.

1. __4__ sides
   Are the sides congruent? **No**

2. __6__ sides
   Are the sides congruent? **Yes**

3. __8__ sides
   Are the sides congruent? **Yes**

4. __4__ sides
   Are the sides congruent? **Yes**

5. __4__ sides
   Are the sides congruent? **Yes**

6. __4__ sides
   Are the sides congruent? **No**
Match the Face of Three-Dimensional Figures

rectangular prism
6 faces

cube
6 faces

Shade the same face.

1.

2.

3.
Lesson Goal
• Identify the faces of a three-dimensional figure.

What the Student Needs to Know
• Count the faces of three-dimensional figures.
• Identify three-dimensional figures.

Getting Started
• Provide a collection of objects or pictures of objects that have the shape of rectangular prisms, cubes, and triangular prisms. Some examples include:
  • Rectangular prisms: tissue box, suitcase, juice box, or cereal box.
  • Cubes: number cube, block, or base-ten ones cube.
  • Triangular prisms: piece of pie or pizza, ramp, triangular block of cheese, or tent.
• Have students group similar objects. Discuss the grouping and have students explain their reasoning.

Teach
Read and discuss the example at the top of the page.
• Display and name a rectangular prism and cube.
• Hold up a rectangular prism. Point to and count the number of faces. Say: “A rectangular prism has 6 faces.”
• Use your finger to trace one rectangle face and one square face of the rectangular prism.
• What shapes make up the faces of a rectangular prism? (rectangles and squares)
• Hold up the cube. Point to and count the number of faces. Say: “A cube has 6 faces.”
• Use your finger to trace the square face of the cube.
• What shape makes up the faces of a cube? (squares)

Practice
• Have students complete Exercises 1 through 3. Check their work.

Count the Faces of Three-Dimensional Figures
• Have the student identify a geometric solid as a cube, rectangular prism, or triangular prism.
• Have the student place a sticker on each face of the solid and record the number of faces.
• Have the student trace a face of the solid to identify the two-dimensional shape.

Identify Three-Dimensional Figures
• Provide examples of two-dimensional and three-dimensional figures.
• Have the student determine the difference between each figure.
• A two-dimensional figure is flat whereas a three-dimensional figure has length, width, and height.
• Hold up a figure and have the student classify it as two-dimensional or three-dimensional.
• For example, hold up a square or triangle. The student should identify the figure as two-dimensional. Then, hold up a rectangular prism or tissue box. The student should identify the figure as three-dimensional.
Identify Sides and Angles of Polygons

**Learn**

Count sides and angles.

You can classify polygons by the number of sides and angles they have.

<table>
<thead>
<tr>
<th>Polygon</th>
<th>Sides</th>
<th>Angles</th>
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<tbody>
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<td>triangle</td>
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<td>6</td>
</tr>
<tr>
<td>octagon</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

**What Can I Do?**

I want to classify polygons.

**Try It**

Write the number of sides and angles for each polygon. Then name the polygon.

1. sides ______ angles ______ name ______

2. sides ______ angles ______ name ______

3. sides ______ angles ______ name ______

4. sides ______ angles ______ name ______

5. sides ______ angles ______ name ______

6. sides ______ angles ______ name ______
### Power Practice

Write the number of sides and angles for each polygon. Then name the polygon.

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<table>
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<td>sides _____</td>
<td>sides _____</td>
<td>sides _____</td>
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<td>name _____</td>
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<tr>
<td>angles _____</td>
<td>angles _____</td>
<td>angles _____</td>
</tr>
<tr>
<td>name _____</td>
<td>name _____</td>
<td>name _____</td>
</tr>
</tbody>
</table>

### Use the traffic signs for Exercises 13–15.

- **STOP**
- **YIELD**
- **Memphis 6 miles**

13. Which traffic sign is shaped like an octagon? ______

14. Name the shape of the sign that shows how far it is to Memphis. ______

15. Which traffic sign is shaped like a triangle? ______
Lesson Goal

• Classify polygons by the number of sides and angles.

What the Student Needs to Know

• Identify a polygon.
• Count the sides and angles of a polygon.

Getting Started

• Tell students that poly-means much or many. A polygon is a closed figure with three or more straight sides.
• Show students models or pictures of two-dimensional shapes. Have them identify each shape as a polygon or not a polygon.
• Create two sets of cut out shapes: triangle, quadrilateral, pentagon, hexagon, and octagon. Label the shapes A through J. (A: triangle; B: quadrilateral; C: pentagon; D: hexagon; E: octagon; F: octagon; G: hexagon; H: pentagon; I: quadrilateral; J: triangle)

Say: Look at the shape labeled A.
Ask: How many sides does this shape have? (3) How many angles does this shape have? (3)
Ask: What is the name of this shape? (triangle) How do you know it’s a triangle and not a pentagon? (Because a pentagon has 5 sides.)
Repeat this procedure with shapes B through J.
Then have students match the sets of polygons (A and J, B and I, C and H, D and G, F and E).

WHAT IF THE STUDENT NEEDS HELP TO

Identify a Polygon

• Spend a little time each day playing a shape-matching game. Using a timer, give the student two minutes to write down as many classroom objects he or she can see that match a particular shape.
• Change the given shape each day, for example, naming a quadrilateral on some days and a triangle on others. You may also ask the student to think of objects in other rooms, such as the cafeteria or the library, that match the shape of the day. Allow the student to share their list with the class.

Count the Sides and Angles of a Polygon

• Place 8 to 12 everyday objects into four shoeboxes. Divide the class into four groups and have each team sort the shapes in their box into categories by shape or by a specific attribute. Have team members explain why they sorted the shapes as they did.
Complete the Power Practice

- Geoboards are excellent tools the student can use to explore polygons. Help him or her to see the different ways a polygon can look depending on the length of its sides and size of its angles. Have the student construct the same kind of polygon on the geoboard. The student will be surprised at how different the same polygon can look.
- Make a ruler available to the student as he or she works with polygons. This will encourage the student to make precise drawings.
- Have the student make geometry flash cards. Each card should have a picture or description of a polygon on the front of the card and the name of the figure on the back. The student can use the cards to practice at school or at home.
- Remind the student that the number of sides and the number of angles in a polygon are the same. Tell the student to count both the sides and the angles to check that they match.

What Can I Do?
Read the question and the response. Then read and discuss the example. Ask:
- What do you notice about the number of sides and the number of angles in each polygon? (They are the same.)

Try It
Ask:
- Do you think that all of the sides of a polygon must be the same length? (No, not all of the polygons shown have the same length on all sides.)
- Do you think that all of the angles of a polygon must be the same size? (No, not all of the polygons shown have angles that are the same size.)

Power Practice
- Suggest that students might mark off each side and angle as they count them.
- Tell them to use the chart at the top of the page to help them name the polygon.
Name ________________________________

Congruent Figures

Learn

What Can I Do?
I want to identify congruent figures

Look at the two figures below. Are the figures the same shape? Are the figures the same size? If you put one over the other, the figures would match exactly. They are congruent. Congruent figures are the same size and the same shape.

Look at the two figures below. If you put one over the other, the figures would not match exactly. These figures are not congruent. They are the same shape, but they are not the same size.

Try It
Do the figures in each pair appear to be congruent? Write yes or no.

1. ________ 2. ________

3. ________ 4. ________
Power Practice

Do the figures in each pair appear to be congruent? Write yes or no.

5.   6.   ______   ______

7.   8.   ______   ______

9.   10.  ______  ______

Choose the figure that appears to be congruent to the first figure. Circle a, b, or c.

11.   a.   b.   c.   

12.   a.   b.   c.   

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Lesson Goal
• Identify congruent figures.

What the Student Needs to Know
• Recognize geometric shapes.

Getting Started
Trace shapes to create the following patterns in four rows on the board:
Row 1: square, circle, square, isosceles triangle, rectangle
Row 2: isosceles triangle, rectangle, right triangle, isosceles triangle, circle
Row 3: square, rectangle, circle, right triangle, rectangle
Row 4: pentagon, octagon, circle, hexagon, hexagon

Ask:
• Which two shapes in each row look exactly the same? (Row 1: squares; Row 2: isosceles triangles; Row 3: rectangles; Row 4: hexagons)
• After students have identified the identical shapes in each group, ask how they made their decisions. (Possible answers: size, number of angles, sizes of angles)

What Can I Do?
Read the question and the response. Then read and discuss the examples.
Ask:
• How can you decide if the two pentagons are congruent? (They must be the same size and shape.) Are the two pentagons congruent? (Yes, they have the same size and shape.)
• How can you decide if the two trapezoids are congruent? (They must have the same size and shape.) Are the trapezoids congruent? (No, they are not the same size, they have the same shape.)

What Can I Do?
I want to identify congruent figures.

Learn
Look at the two figures below. Are the figures the same shape? Are the figures the same size? If you put one over the other, the figures would match exactly. They are congruent. Congruent figures are the same size and the same shape.

Try It
Do the figures in each pair appear to be congruent?
Write yes or no.

1. yes
2. no
3. no
4. yes

Recognition of Geometric Shapes
• Construct a polygon bulletin board in the classroom. After a specific polygon has been introduced, add the shape to the board. Be sure to include properties of each polygon below the figure.
• Have the student make polygon flash cards. Have the student draw the polygon on the front and add any information needed to identify it (example: number of sides and angles). Then have the student write the name of the polygon on the back. Have the student use the cards and practice with a partner.
• Play Geometry Concentration to learn polygons. Draw a specific polygon on one side of an index card. Write the corresponding name for the polygon on another index card. Do this for ten specific polygons. Turn all of the cards facedown. Pairs of students take turns turning over two cards. The goal is to match the word with the shape. If the cards do not match, the student turns the cards back over and the next student continues. If the student finds a match, he or she keeps the cards and gets another turn. The student with the most cards is the winner.
Complete the Power Practice

- Discuss each incorrect answer. Have the student use tracings to help recognize congruency.
- Direct student pairs to explain the concept of congruence to one another. Have the students select classroom items and identify them as congruent or not congruent. Ask them to tell why the noncongruent items are not congruent.

Try It

- Work through Exercises 1 through 4 with the students. Have students explain how they are able to determine if the figures are congruent. (Possible answer: The figures have the same size and the same shape; the figures are the same shape, but they are not the same size.)

Power Practice

- Have students complete the practice items. Encourage them to examine the figures carefully to determine if they are congruent. Point out that the shapes may be the same, but they may not be the same size.
- Call students’ attention to Exercises 11 and 12. These exercises offer a different approach to congruence than those used in Exercises 1 through 10.
- Review each answer. Have students compare the ways in which they were able to determine if the figures were congruent or not congruent.

**Power Practice**

1. Do the figures in each pair appear to be congruent? Write yes or no.

<table>
<thead>
<tr>
<th>Figure Pair</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>no</td>
</tr>
<tr>
<td>2.</td>
<td>yes</td>
</tr>
<tr>
<td>3.</td>
<td>no</td>
</tr>
<tr>
<td>4.</td>
<td>yes</td>
</tr>
<tr>
<td>5.</td>
<td>no</td>
</tr>
<tr>
<td>6.</td>
<td>yes</td>
</tr>
<tr>
<td>7.</td>
<td>no</td>
</tr>
<tr>
<td>8.</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Choose the figure that appears to be congruent to the first figure. Circle a, b, or c.**

<table>
<thead>
<tr>
<th>Figure</th>
<th>a</th>
<th>b</th>
<th>c</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Games and Puzzles: Geometry Memory Match

DIRECTIONS

• Find a partner.
• Trace and cut out the 12 Geometry Memory Match cards on the next page.
• Lay the picture cards and word cards facedown in an array.
• Player 1, flips two cards.
• If the two cards match, Player 1 keeps them.
• If the two cards do not match, Player 1 returns each card facedown to the array.
• Player 2, takes the next turn, following the same steps.
• Continue to take turns until all the matches are found.
• The player with the most cards wins.

These two cards are a match.

These two cards are not a match.
## Games and Puzzles: Geometry Memory Match

### CARDS

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="rectangle.png" alt="Rectangle" /></td>
<td>rectangle</td>
<td></td>
</tr>
<tr>
<td><img src="trapezoid.png" alt="Trapezoid" /></td>
<td></td>
<td>trapezoid</td>
</tr>
<tr>
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<td>square</td>
</tr>
<tr>
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<td>right angle</td>
<td></td>
</tr>
<tr>
<td><img src="parallelogram.png" alt="Parallelogram" /></td>
<td></td>
<td>parallelogram</td>
</tr>
</tbody>
</table>

- **Rectangle**: A quadrilateral with four right angles and opposite sides equal.
- **Trapezoid**: A quadrilateral with one pair of parallel sides.
- **Parallel Lines**: Two lines that never meet, no matter how far they are extended.
- **Square**: A rectangle with all sides equal.
- **Right Angle**: An angle that measures 90 degrees.
- **Parallelogram**: A quadrilateral with opposite sides parallel and equal in length.
Lesson Goal
• Review parallel lines, right angles, and quadrilaterals.

What the Student Needs to Know
• Identify lines.
• Identify the attributes of a quadrilateral.

Getting Started
• Draw a right angle, parallel lines, and a square on the board.
• Point to the parallel lines and say, “These lines are parallel because they do not cross.”
• Point to the right angle and say, “This is a right angle because it measures exactly 90 degrees and looks like a corner.”
• Point to the square and say, “This is a square. It is a quadrilateral. The square is made up of parallel lines and right angles.”
• Ask volunteers to point out the parallel lines in the square. Use different colors to trace the parallel lines in order for students to see how they do not cross.
• Ask volunteers to point out the right angles in the square. Label each right angle with a square for students to identify the angle as a corner.

Teach
Read and discuss the directions for the game “Geometry Memory Match.”
• Model how to lay the picture cards facedown in an array. One possible array for students to lay their cards in would be a 3 × 4 rectangle.
• Show students how to flip the cards to match a picture card to a definition card.
• Allow students to play the game.

Practice
• If students have difficulty with the activity, encourage them to model parallel lines, quadrilaterals, and right angles on a geoboard.

WHAT IF THE STUDENT NEEDS HELP TO

Identify Lines
• To practice drawing lines, the student should use graph or grid paper.
• Encourage the student to start by pointing out three squares on the graph or grid paper with their finger.
• Have the student use a pencil to trace the top line of the 3 squares. Place arrows on both ends to form a line.
• To draw parallel lines, have the student trace the bottom line of the 3 squares.
• Show students how the lines model parallel lines because they are evenly spaced and will never intersect.

Identify the Attributes of a Quadrilateral
• Review the attributes of quadrilaterals with the student. Quadrilaterals have one or more of the following attributes:
  • Congruent Sides
  • Parallel Sides
  • Right Angles
  • Four Sides
• Create a poster of the attributes to post in the classroom.
Name ________________________________

FACES OF THREE-DIMENSIONAL FIGURES

Circle the figure that is similar to the shaded face.

1. [Diagram of a cube]  
   | Circle | Rectangular Prism | Cuboid | Triangular |

2. [Diagram of a cylinder]  
   | Circle | Rectangular Prism | Cuboid | Triangular |

3. [Diagram of a sphere]  
   | Circle | Rectangular Prism | Cuboid | Triangular |

Write the number of faces for each figure.

4. [Diagram of a rectangular prism]  
   _____ faces

5. [Diagram of a triangular prism]  
   _____ faces

6. [Diagram of a cube]  
   _____ faces
Lesson Goal
- Identify the faces of a three-dimensional figure.

What the Student Needs to Know
- Identify the difference between two- and three-dimensional figures.

Getting Started
- Show students models of three-dimensional figures and two-dimensional figures.
- Ask them to group the models in as many different ways as they can.
- Possible groupings include: shapes with points and shapes without points, shapes with triangles and shapes without triangles, shapes with rectangles and shapes without rectangles, etc.

Teach
Read and discuss Exercise 1 at the top of the page.
- Display a geometric solid in the form of a rectangular prism.
- Point to and count the number of faces.
- Say: “A rectangular prism has 6 faces.”
- Use your finger to trace one rectangle face and one square face of the rectangular prism.
- What shapes make up the faces of the rectangular prism? (rectangles and squares)
- In Exercise 1, one face is shaded within the rectangular prism. What shape is the shaded face? (a rectangle) Circle the rectangle.

Practice
- Have students complete Exercises 2 through 6.
- Check student work.
- If students have difficulty with the activity, have them work with geometric solids to review the faces of three-dimensional figures.

What If the Student Needs Help To

Identify the Difference between Two- and Three-Dimensional Figures
- Remind the student that two-dimensional figures have length and width while three-dimensional figures have length, width, and height.
- Show the student a cube. Explain that a cube is a three-dimensional figure.
- Then show the student a picture of a square. Explain that the square is two-dimensional.
- Present objects or drawings of figures one at a time to the student. Ask him or her to identify each figure as two-dimensional or three-dimensional.
- Create a chart on the board with a list of two-dimensional figures and three-dimensional figures.