

Just in Time Quick Check

Standard of Learning 1.MG.2

Strand: Measurement and Geometry

Standard of Learning 1.MG.2

The student will describe, sort, draw, and name plane figures (circles, triangles, squares, and rectangles), and compose larger plane figures by combining simple plane figures.

Students will demonstrate the following Knowledge and Skills:

- a) Describe triangles, squares, and rectangles using the terms sides, vertices, and angles. Describe a circle using terms such as *round* and *curved*.
- b) Sort plane figures based on their characteristics (e.g., number of sides, vertices, angles, curved).
- c) Draw and name the plane figure (circle, square, rectangle, triangle) when given information about the number of sides, vertices, and angles.
- d) Identify, name, and describe representations of circles, squares, rectangles, and triangles, regardless of orientation, in different environments and explain reasoning.
- e) Recognize and name the angles found in rectangles and squares as right angles.
- f) Compose larger plane figures by combining two or three simple plane figures (triangles, squares, and/or rectangles).

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting and Prerequisite SOL: K.MG.2, 1.PFA.1

Just in Time Quick Check 1.MG.2: Student Interview

Teacher Note: Provide the student with paper and a pencil or dry erase marker and board, and a collection of shapes of different sizes that include a variety of triangles, circles, squares, and rectangles (e.g., attribute blocks).

1. Ask the student to identify the plane figure(s) that have: (record student's response)

- a) three sides _____
- b) four sides _____
- c) three vertices _____
- d) four vertices _____
- e) right angles _____

2. Ask the student to identify and describe a circle.

Student Response:

3. Ask the student to describe the following shapes by telling how many sides, vertices and angles (record the student's response):

- Triangle: Sides _____ Vertices _____ Angles _____
- Rectangle: Sides _____ Vertices _____ Angles _____
- Square: Sides _____ Vertices _____ Angles _____

- Ask the student to say what kind of angles are in squares and rectangles.

Student Response:

4. Provide the student with a collection of attribute blocks. Blocks should include but are not limited to triangles, rectangles, squares and circles. Ask the student to sort the figures based on their characteristics. Possible sorts include sorting by sides, vertices, angles and curves. If students sort by color or size, acknowledge that is one characteristic of the shapes and ask the student if they can sort the shapes by another characteristic.

Student Response:

5. Read the following clues to the student and have them draw the shape that is being described on their paper or dry erase board. Then ask them to name each shape.

- a) I am a shape with four sides and four vertices. All my sides are the same length. What shape am I?

Student Response:

- b) I am a shape with three vertices and three angles. What shape am I?

Student Response:

- c) I am a shape with no sides. I am round and curved. What shape am I?

Student Response:

- d) I am a shape with four right angles. Two of my sides are long and two of my sides are short. What shape am I?

Student Response:

6. Pointing to one picture at a time, ask the student to identify and describe the shape or shapes shown in each picture. Ask the student to explain how they determined their answer. Record student responses next to each picture.



1.MG.2 Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

Teacher Note: Provide the student with paper and a pencil or dry erase marker and board, and a collection of shapes of different sizes that include a variety of triangles, circles, squares, and rectangles (e.g., attribute blocks).

1. Ask the student to identify the plane figure(s) that have: (record student's response)

- a) three sides _____
- b) four sides _____
- c) three vertices _____
- d) four vertices _____
- e) right angles _____

Some students may have difficulty recalling the names of the shapes that meet the given characteristics or may not understand the terms that describe the shapes (e.g., sides, vertices, angles). These students will need additional opportunities to explore shapes, including recognizing and naming their characteristics. Word banks or word wall cards may be helpful as students become more familiar with these terms. During classroom activities, it is important to use these terms often so that students can also become comfortable and have many opportunities to use these terms when describing various plane figures. Activities that include finding shapes in the classroom and school or at home and describing the characteristics of those shapes are encouraged.

2. Ask the student to identify and describe a circle.

Students who are unable to describe a circle using the words curved and round need further opportunities to explore and describe the characteristics of a circle. Relating shapes to figures in the environment (e.g., classroom, school, home), while also providing more hands-on instruction using plane figures, is encouraged.

3. Ask the student to describe the following shapes by telling how many sides, vertices and angles (record the student's response):

Triangle: Sides _____ Vertices _____ Angles _____

Rectangle: Sides _____ Vertices _____ Angles _____

Square: Sides _____ Vertices _____ Angles _____

- Ask the student to say what kind of angles are in squares and rectangles.

Students who are unable to describe the shapes using the terms sides, vertices, and angles will need additional opportunities to explore and describe shapes. These terms need to be used frequently in the classroom by both the teacher and the students. Playing games, such as I Spy, during transition times throughout the day, provides students with opportunities to describe shapes and gives other students opportunities to name shapes. Repeated exposure to these terms will help to strengthen students' understanding of these terms. In addition, word wall cards may be helpful until students are more comfortable using the terms sides, vertices, and angles.

Students who are unable to state that squares and rectangles have right angles need additional experience exploring the characteristics of squares and rectangles compared to other plane figures. In addition, students will need to hear and use the term "right angle" often when describing the type of angle found in squares and rectangles. The use of word banks or word wall cards with graphics may be beneficial and may help reinforce these concepts for students.




4. Provide the student with a collection of attribute blocks. Blocks should include but are not limited to triangles, rectangles, squares and circles. Ask the student to sort the figures based on their characteristics. Possible sorts include sorting by sides, vertices, angles and curves. If students sort by color or size, acknowledge that is one characteristic of the shapes and ask the student if they can sort the shapes by another characteristic.



Students may be able to sort the blocks using these characteristics but may not be able to use the correct vocabulary to describe how figures are sorted. These students will benefit from additional experience (e.g., shape sorting activities, shape hunts) that focus on identifying and describing the characteristics of plane figures. Hands-on instruction using plane figures provides opportunities for students to become more fluent and confident with the vocabulary used to describe plane figures.

5. Read the following clues to the student and have them draw the shape that is being described on their paper or dry erase board. Then ask them to name each shape.
- a) I am a shape with four sides and four vertices. All my sides are the same length. What shape am I?
 - b) I am a shape with three vertices and three angles. What shape am I?
 - c) I am a shape with no sides. I am round and curved. What shape am I?
 - d) I am a shape with four right angles. Two of my sides are long and two of my sides are short. What shape am I?

Student may be able to draw shapes when given the name of the shape (e.g., “Draw a square.”) but they may have difficulty drawing shapes when given the characteristics of the shape instead. Additionally, some students may only focus on part of the description rather than all the clues given. For example, in a) students may draw a rectangle instead of a square because they focused on the “four sides” and “four vertices” but overlooked the clue that “all sides are the same length.” Similarly, in d) students may draw a square because they focused on the “four right angles” but overlooked the clue that “two sides are long, and two sides are short.” Teachers may need to remind students to listen carefully to all the attributes in each clue to help distinguish between similar shapes.

6. Pointing to one picture at a time, ask the student to identify and describe the shape or shapes shown in each picture. Ask the student to explain how they determined their answer. Record student responses next to each picture.

	<p><i>If students are unable to identify the triangle in this picture, they may not understand that the orientation of the triangle does not determine its shape. They will benefit from experiences naming and describing triangles in their environment that appear in different orientations.</i></p>
	<p><i>If students are unable to identify the circles in this picture further instruction in identifying and naming the characteristics of a circle is needed. Exploring and describing circles found in the classroom or at home may be beneficial. Some students may also see a rectangle around the circles.</i></p>
	<p><i>If students are unable to identify the yellow boxes as representations of rectangles, they may need additional opportunities to explore the characteristics of a rectangle. Shape Hunts or I Spy activities can be beneficial in strengthening their ability to identify and describe shapes in their environment.</i></p>

	<p><i>Students who are unable to identify the circle or the white rectangle in this picture will benefit from opportunities to seek out and explore shapes both in their environment (e.g., classroom, school, home). Playing a game such as I Spy can be helpful. For example, saying to students, “I see a white rectangle. Where do you see a white rectangle?” Discussions around characteristics of different shapes and comparing squares to rectangles will be important for students who do not yet recognize rectangles with ease.</i></p>
	<p><i>Students should identify this sign as a square (and possibly a rectangle). If students are unable to identify the square, it may be helpful to make a more distinct line around the outside of the shape to show the vertices of the square. Students may identify this as a diamond, indicating a need to experience squares in different orientations.</i></p>