

**Just in Time Quick Check**  
**Standard of Learning K.MG.2**  
**Strand: Measurement and Geometry**

**Standard of Learning K.MG.2**

**The student will identify, describe, name, compare, and construct plane figures (circles, triangles, squares, and rectangles).**

*Students will demonstrate the following Knowledge and Skills:*

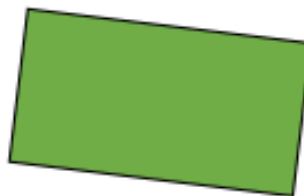
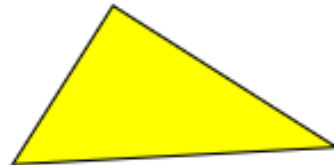
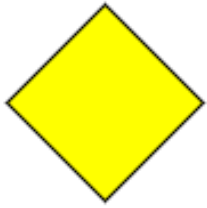
- a) Identify and name concrete and pictorial representations of circles, triangles, squares, and rectangles regardless of their orientation in space.
- b) Describe triangles, squares, and rectangles to include the number of sides and number of vertices.
- c) Describe a circle using terms such as *round* and *curved*.
- d) Distinguish between examples and nonexamples of identified plane figures (circles, triangles, squares, and rectangles).
- e) Compare and contrast two plane figures using characteristics to describe similarities and differences.
- f) Construct plane figures (circles, triangles, squares, and rectangles) using a variety of materials (e.g., straws, sticks, pipe cleaners).

**Just in Time Quick Check**

**Just in Time Quick Check Teacher Notes**

**Supporting and Prerequisite SOL: N/A**

K.MG.2 Just in Time Quick Check: Student Interview  
Plane Figures



Teacher Note: Provide students with images of the plane figures on page 2, a geoboard and rubber bands, or other building manipulatives (e.g., popsicle sticks, toothpicks, straws of different lengths, angles).

1. Ask students to identify an example of each shape and explain. Ask students who correctly identify an example of the shape to identify a nonexample.
  - Triangles
    - Say: *Show me an example of a triangle.*
    - If students cannot identify a triangle, go to the next shape. If they correctly identify a triangle, ask: *How do you know that shape is a triangle?*
    - If not addressed in previous response, ask: *How many sides does a triangle have? Ask: How many vertices does a triangle have?*
    - If students correctly identify and describe a triangle, ask: *Can you show me an example of a shape that is not a triangle?*
    - If correct, then ask: *How do you know that shape is not a triangle?*
  - Squares
    - Say: *Show me an example of a square.*
    - If students cannot identify a square, go to the next shape. If they correctly identify a square, ask: *How do you know that shape is a square?*
    - If not addressed in previous response, ask: *How many sides does a square have? Ask: How many vertices does a square have?*
    - If students correctly identify and describe a square, ask: *Can you show me an example of a shape that is not a square?*
    - If correct, then ask: *How do you know that shape is not a square?*
  - Circles
    - Say: *Show me an example of a circle.*
    - If students cannot identify a circle, go to the next shape. If they correctly identify a circle, ask: *How do you know that shape is a circle?*
    - If students correctly identify a circle, ask: *Can you show me an example of a shape that is not a circle?*

- If correct, then ask: *How do you know that shape is not a circle?*
- Rectangles
  - Say: *Show me an example of a rectangle.*
  - If students cannot identify a rectangle, go to question 2. If they correctly identify a rectangle, then ask: *How do you know that shape is a rectangle?*
  - If not addressed in previous response, ask: *How many sides does a rectangle have? Ask: How many vertices does a rectangle have?*
  - If students correctly identify and describe a rectangle, ask: *Can you show me an example of a shape that is not a rectangle?*
  - If correct, then ask: *How do you know that shape is not a rectangle?*

2. Say to the student: *Tell me how a triangle and square are similar. How are they different?*

3. Provide the student with a geoboard and rubber bands, or other building manipulatives.
- Ask: *Can you use these tools to build a rectangle?*
  - Ask: *How do you know that shape is a rectangle?*

## Just in Time Quick Check Teacher Notes K.MG.2

### Common Errors/Misconceptions and their Possible Indications

Teacher Note: Provide students with images of the plane figures on page 2, a geoboard and rubber bands, or other building manipulatives (e.g., popsicle sticks, toothpicks, straws of different lengths, anglels).

1. Ask students to identify an example of each shape and explain. Ask students who correctly identify an example of the shape to identify a nonexample.

- Triangles

- Say: *Show me an example of a triangle.*
- If students cannot identify a triangle, go to the next shape. If they correctly identify a triangle, ask: *How do you know that shape is a triangle?*
- If not addressed in previous response, ask: *How many sides does a triangle have? Ask: How many vertices does a triangle have?*
- If students correctly identify and describe a triangle, ask: *Can you show me an example of a shape that is not a triangle?*
- If correct, then ask: *How do you know that shape is not a triangle?*

*Students who are unable to show an example of a triangle may choose a different shape with straight sides. Additionally, these students are likely not yet able to describe the characteristics of a triangle or state the number of sides/vertices. Some students may only identify the equilateral triangles as a triangle or they may only identify a triangle that is placed in a traditional orientation (parallel to the bottom of a page). Additional activities, including shape hunts or shape sorts where various types of triangles are presented in a variety of orientations will help students engage in discussions about what they notice about the shapes. Students will be able to notice similarities among triangles and will be able to recognize that triangles are shapes that have 3 sides and 3 vertices.*

- Squares

- Say: *Show me an example of a square.*
- If students cannot identify a square, go to the next shape. If they correctly identify a square, ask: *How do you know that shape is a square?*

- If not addressed in previous response, ask: *How many sides does a square have? Ask: How many vertices does a square have?*
- If students correctly identify and describe a square, ask: *Can you show me an example of a shape that is not a square?*
- If correct, then ask: *How do you know that shape is not a square?*

*Some students may include rectangles as they identify the squares in the collection. This may indicate that they believe all four-sided figures are squares and do not recognize that squares have square corners and four sides that are the same length. Students may also not choose squares that are turned onto one of their vertices (rotated), as they do not see that shape as a square because of its orientation. Students need to have experience identifying and describing squares presented in various orientations. Engaging students in instructional activities that have them locate and describe shapes in their environment will increase their ability to identify plane figures in different representations and orientations.*

*Some students may struggle when choosing nonexamples of some of the shapes, particularly squares and rectangles. These students will benefit from additional activities that focus on selecting a shape, describing its characteristics, and comparing it to other shapes with different characteristics. Throughout the day, teachers can hold up an object in the classroom and ask students, “What shape is this? How do you know?” Then students can be prompted to choose a shape that is not an example of that type of shape. Additionally, playing games such as “Guess My Shape” can engage students in describing and being able to distinguish between examples and nonexamples of plane figures.*

- Circles

- Say: *Show me an example of a circle.*
- If students cannot identify a circle, go to the next shape. If they correctly identify a circle, ask: *How do you know that shape is a circle?*
- If students correctly identify a circle, ask: *Can you show me an example of a shape that is not a circle?*
- If correct, then ask: *How do you know that shape is not a circle?*

*Additional practice is needed for these students to see and name circles in their environment and understand that circles can be various sizes but are all round or curved.*

- Rectangles

- Say: *Show me an example of a rectangle.*
- If students cannot identify a rectangle, go to question 2. If they correctly identify a rectangle, then ask: *How do you know that shape is a rectangle?*
- If not addressed in previous response, ask: *How many sides does a rectangle have? Ask: How many vertices does a rectangle have?*
- If students correctly identify and describe a rectangle, ask: *Can you show me an example of a shape that is not a rectangle?*
- If correct, then ask: *How do you know that shape is not a rectangle?*

*Some students may confuse squares and rectangles because they both have four sides. Students need to have experience comparing rectangles and squares and describing their similarities and differences (e.g., rectangles have four sides, but squares must have all four sides that are the same length). While it is not necessary for Kindergarten students to recognize that squares are a special type of rectangle, some students may understand this concept. If a student selects a square and states that it is a rectangle, prompt the student to identify additional rectangles on the page.*

*Engaging students in games such as “Going on a Shape Hunt,” “I Spy,” or “Name My Shape” can be beneficial in providing practice identifying and describing shapes in their environment. Reading math-related literature that models plane figures in different sizes and orientations will also help develop students’ abilities to generalize the characteristics of these shapes. These activities will help students to identify shapes in different sizes and orientations and allow for discussions about the characteristics of shapes.*

2. Say to the student: *Tell me how a triangle and square are similar. How are they different?*

*Some students will say that triangles and squares are similar because they both have four sides and four corners or vertices. These students may be confusing the terms triangle and rectangle because the words sound similar. Students would benefit from regular practice identifying and naming shapes in their environment and discussing similarities and differences.*

3. Provide the student with a geoboard and rubber bands, or other building manipulatives.

- Ask: *Can you use these tools to build a rectangle?*

- *Ask: How do you know that shape is a rectangle?*

*Some students may build a figure with four sides but not recognize that a rectangle also has four right angles. These students would benefit from explicit instruction on properties of rectangles. It may be helpful to use a sticky note or index card to investigate and find square corners in shapes. It is also beneficial to use manipulatives that snap together and readily form corners when constructing shapes, as many students at this age lack the fine motor skills to draw a clearly defined corner with a pencil or crayons.*