

#### Vertical Progression:

<b>1<sup>st</sup> Grade</b>	<p><b>1.G.A Reason with shapes and their attributes.</b></p> <ul style="list-style-type: none"> <li>○ <b>1.G.A.1</b> Distinguish between defining attributes (e.g. triangles are closed and three-sided) versus non-defining attributes (e.g. color, orientation, overall size): build and draw shapes to possess defining attributes.</li> <li>○ <b>1.G.A.2</b> Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.</li> <li>○ <b>1.G.A.3</b> Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves</i>, <i>fourths</i>, and <i>quarters</i>, and use the phrases <i>half of</i>, <i>fourth of</i>, and <i>quarter of</i>. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</li> </ul>
<b>2<sup>nd</sup> Grade</b>	<p><b>2.G.A Reason with shapes and their attributes.</b></p> <ul style="list-style-type: none"> <li>○ <b>2.G.A.1</b> Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. Sizes are compared directly or visually, not compared by measuring.</li> <li>○ <b>2.G.A.2</b> Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</li> <li>○ <b>2.G.A.3</b> Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words <i>halves</i>, <i>thirds</i>, <i>half of</i>, <i>a third of</i>, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.</li> </ul>
<b>3<sup>rd</sup> Grade</b>	<p><b>3.G.A Reason with shapes and their attributes.</b></p> <ul style="list-style-type: none"> <li>○ <b>3.G.A.1</b> Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), &amp; that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, &amp; squares as examples of quadrilaterals, &amp; draw examples of quadrilaterals that do not belong to any of these subcategories.</li> <li>○ <b>3.G.2</b> Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.</li> </ul>
<b>4<sup>th</sup> Grade</b>	<p><b>4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</b></p> <ul style="list-style-type: none"> <li>○ <b>4.G.A.2</b> Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.</li> </ul>

#### Students will demonstrate command of the ELG by:

- Recognize shapes by name including rhombus, rectangle, and square.
- Describing attributes of quadrilaterals.
- Categorizing shapes based on names and/or attributes.
- Comparing and contrasting quadrilaterals based on attributes.
- Recognizing and drawing quadrilaterals, including rhombuses, rectangles, and squares.
- Recognizing and drawing quadrilaterals that are not rhombuses, rectangles or squares.
- Partitioning shapes into parts with equal areas and expressing the area of each part as a unit fraction of the whole.

**Vocabulary:**

- 2-dimensional
- attribute
- circle
- denominator
- equal part
- fraction
- hexagon
- numerator
- parallel
- parallelogram
- perpendicular
- pentagon
- polygon
- quadrilateral
- rectangle
- rhombus
- semi-circle
- square
- trapezoid
- unit fraction

**Sample Instructional/Assessment Tasks:**

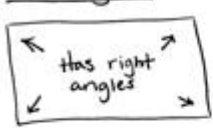

1) Standard: 3.G.A.1

Source: <https://www.engageny.org/resource/grade-3-mathematics-module-7-topic-b-lesson-6>

**Item Prompt: Squares and Rectangles**

Frankie says that all squares are rectangles, but not all rectangles are squares. Do you agree with this statement? Why or why not? Draw diagrams to support your statement.

**Correct Answer:**

<p><u>Rectangles:</u></p>  <ul style="list-style-type: none"> <li>• Has 4 sides.</li> <li>• Has 2 sets of parallel sides.</li> <li>• Sides don't have to be the same length (but they can be).</li> </ul>	<p><u>Squares:</u></p>  <ul style="list-style-type: none"> <li>• Has 4 sides</li> <li>• Has 2 sets of parallel sides.</li> <li>• All sides are same length.</li> </ul>
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I agree with Frankie. A square has all the same things as a rectangle. It's a rectangle with 4 equal sides. But rectangles don't always have to have equal sides.

2) Standard: 3.G.1

Source: <https://www.engageny.org/resource/grade-3-mathematics-module-7-topic-b-lesson-6>

Item Prompt: Jeanette's Shape

Use a ruler and a right angle tool to help you draw a shape that matches the attributes of Jeanette's shape. Label your drawing to explain your thinking.

Jeanette says her shape has exactly 4 right angles and 2 sets of parallel sides. It is not a regular quadrilateral. List at least two names for the shape you drew.

Correct answer:

Students will most likely draw a rectangle. A square is a regular quadrilateral (because all side lengths are congruent and all angles are congruent), so it would not be a correct possibility. Students should label the sets of parallel sides and the right angles. In addition to rectangles students would correctly name the shape as a quadrilateral, quadrangle, polygon, or parallelogram.

3) Standard: 3.G.A.2

Source: Engage New York

Item Prompt: Sharing Milk

Marcos has a 1-liter jar of milk to share with his mother, father, and sister. Draw a picture to show how Marcos must share the milk so that everyone gets the same amount. What fraction of the milk does each person get?

Correct Answer: One possible correct answer

