Grade 3 Target K

Domain, Target, Standards, DOK, Vertical Alignments, Achievement Levels, Evidence Required, Vocabulary, Response Types, Materials, Attributes, Question Types, and Question Banks (Examples)

Content Domain: Geometry

Target K [s]: 3.OA.A Represent and solve problems involving multiplication and division.

Standards included in Target K: 3.G.A.1, 3.G.A.2

3.G.A Reason with shapes and their attributes.

3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*

Vertical Alignment

Related Grade 2 standards

2.G.A.1 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.

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2.G.A.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, 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.

Related Grade 4 Standards

4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.A.2 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.

4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Achievement Level Descriptors

Level 1 Students should be able to recognize rhombuses, rectangles, and squares.

Level 2 Students should be able to reason with the attributes of quadrilaterals to recognize rhombuses, rectangles, and squares as examples of quadrilaterals and reason with shapes to partition them into parts with equal areas.

Level 3 Students should be able to draw examples of quadrilaterals that do not belong to given subcategories by reasoning about their attributes; partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole; and understand that shapes in different categories may share attributes and that the shared attributes can define a larger category.

Level 4 No Descriptor

Evidence Required

1. The student identifies, draws, and classifies shapes (e.g., rhombuses, rectangles, and others) according to their attributes (e.g., having four sides), and recognizes that shared attributes can define a classification category.

2. The student partitions shapes into parts with equal areas and can express the area of each part as a unit fraction of the whole.

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Vocabulary
divide, equal areas, rhombus, rectangle, square, circle, triangle, pentagon, hexagon, quadrilateral, parallelogram

Response Types
Matching Table; Hot Spot; Drag and Drop; Graphing; Equation/Numeric

Materials
visual models of quadrilaterals and other shapes

Attributes
Images of shapes may include two-dimensional shapes such as triangles, quadrilaterals, pentagons, hexagons, squares, rectangles, rhombuses, parallelograms, trapezoids, and circles. Shapes may be partitioned into parts with equal areas in shapes such as rectangles, squares, and triangles.

Claim 1: Concepts and Procedures (DOK 1, 2)Question Banks
Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.

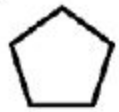
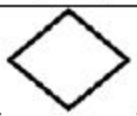
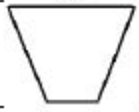
Claim 1 3.G.A.1 DOK Level 1

Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Evidence Required
The student identifies, draws, and classifies shapes (e.g., rhombuses, rectangles, and others) according to their attributes (e.g., having four sides) and recognizes that shared attributes can define a classification category.

Question Type 1: The student is presented with a description of a shape which may include:
- the name of the shape (e.g., quadrilateral, parallelogram)
- the attributes of the shape (e.g., 4 sides)

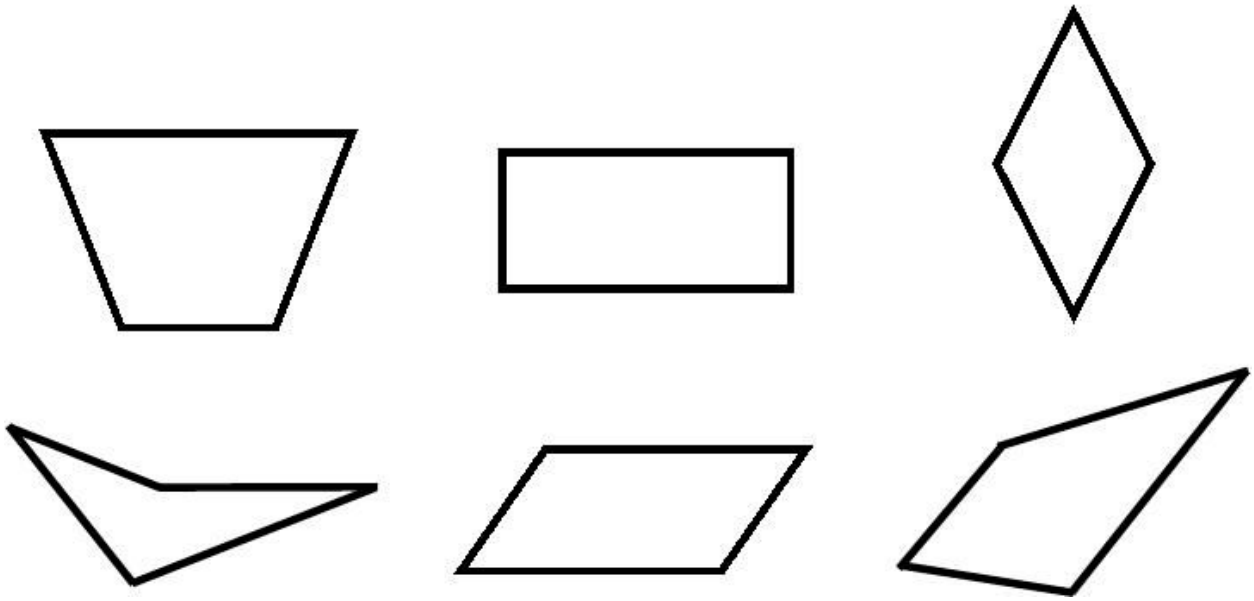
1. Decide whether each shape is a quadrilateral. Click Yes or No for each shape.

	Yes	No
		
		
		

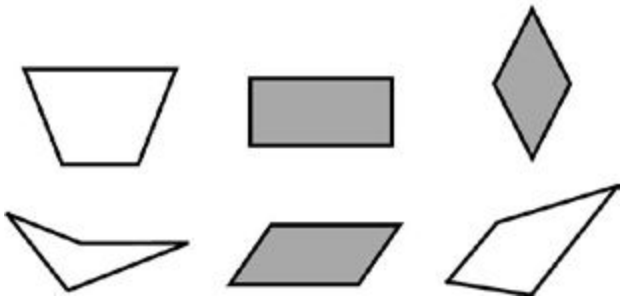
Rubric: (1 point) The student correctly identifies each shape as Yes or No (e.g., N, Y, Y).
Response Type: Matching Tables

Question Type 2: The student is presented with a collection of shapes.

1. Click all of the shapes that appear to be parallelograms.



Rubric: (1 point) The student correctly selects all of the parallelograms (e.g., see image below).

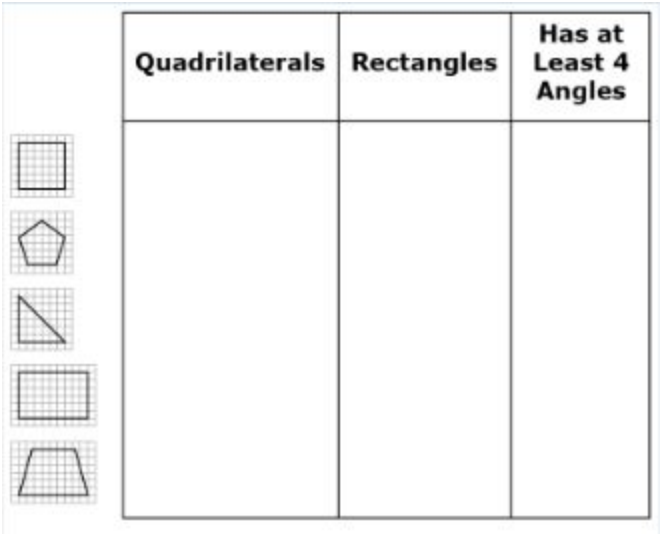


Response Type: Hot Spot

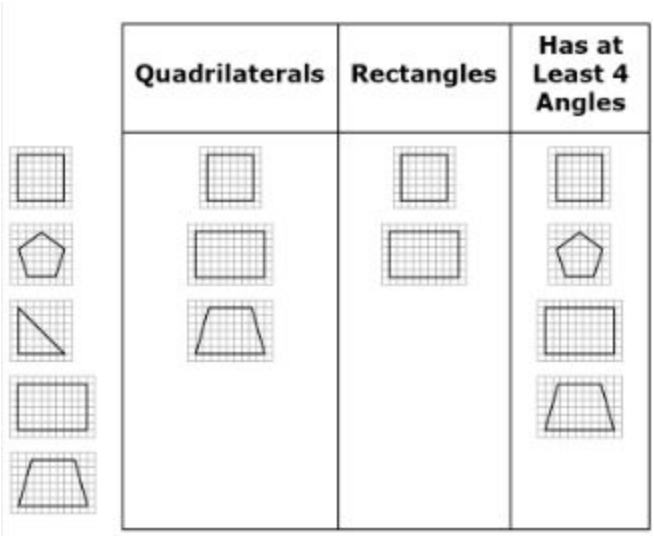
Questions 3: The student is presented with a collection of four or five shapes.

1. Drag the figures to each box or boxes where they belong.

A figure may belong to more than one category or to none of these categories.



Rubric: (1 point) The student correctly classifies each shape (e.g., see chart below).



Response Type: Drag and Drop

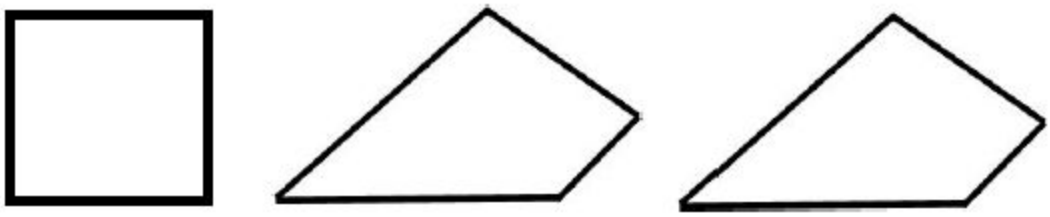
Question Type 4: The student is presented with a grid.

1. Use the Connect Line tool to draw a quadrilateral where every side is the same length.

2. Use the Connect Line tool to draw a quadrilateral where every side is a different length.

3. Use the Connect Line tool to draw a quadrilateral that is **not** a rhombus or a rectangle.

Rubric: (1 point) The student correctly draws a quadrilateral that meets the given attributes (e.g., see quadrilaterals below)



Response Type: Graphing

3.G.A.2 DOK 1

Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal areas, and describe the area of each part as 1/4 of the area of the shape.*

Evidence Required

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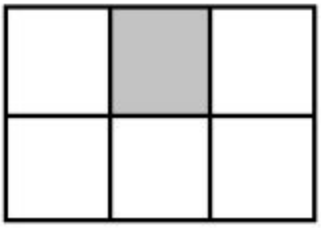
The student partitions shapes into parts with equal areas and can express the area of each part as a unit fraction of the whole.

Question Type 1: The student is presented with a rectangle or circle that is divided into halves, thirds, fourths, sixths, or eighths, with one part shaded.

1. Figure A is divided into equal squares. One square is shaded.

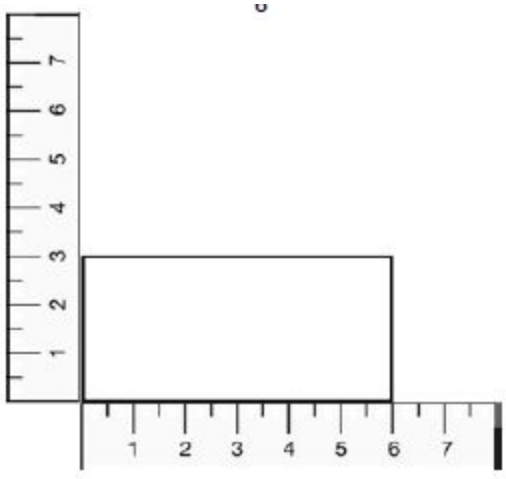


Enter a fraction that is equal to the shaded area of Figure A.

Rubric: (1 point) The student enters the fraction equal to the shaded portion of the shape (e.g., $\frac{1}{6}$).
Response Type: Equation/Numeric

Question Type 2: The student is presented with a rectangle with rulers along two adjacent sides.

1. This rectangle can be divided into equal parts. Click to shade $\frac{1}{6}$ of the rectangle



Rubric: (1 point) The student clicks on the Hot Spots in the background to represent the unit fraction provided.

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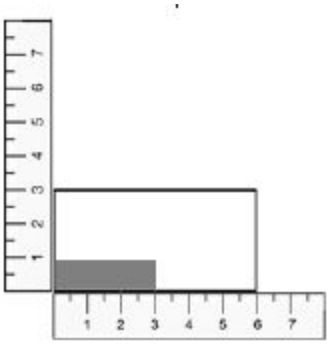
(e.g., 

, or any 3 squares shaded)

Response Type: Hot Spot