Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.	
Content Domain: **Geometry**	
Target K [a]: Reason with shapes and their attributes. (DOK 1, 2) These tasks should support Grade 3 fraction and area work. Technology-enhanced tasks could involve partitioning a shape into parts with equal areas; more traditional tasks could involve expressing the area of each part as a unit fraction of the whole. For these tasks, shapes may be partitioned into non-rectangular parts; for example, students will use intuitive ideas about area to reason that a square with both diagonals drawn has been partitioned into four equal parts. Other tasks for this target will connect less directly to other material in the grade, continuing the standards' progression of increasingly sophisticated spatial and logical reasoning about shapes and their attributes (cf. 2.G.1). Most of these tasks will assess understanding of the hierarchy of quadrilaterals as detailed in 3.G.A.1. A few tasks may involve categories of shapes not explicitly mentioned in the standard, so as to assess understanding of property-based categorization per se at this level. For example, a regular octagon and a rectangle might be shown and the student asked to select a category to which both figures belong—e.g., figures that can be partitioned into triangles—and then to produce a figure not belonging to that category (e.g., a circle).	
Standards: 3.G.A, 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.*
Related Below-Grade and Above-Grade Standards for Purposes of Planning for Vertical Scaling: 2.G.A, 2.G.A.1, 2.G.A.3, 4.G.A, 4.G.A.1, 4.G.A.2, 4.G.A.3	**Related Grade 2 Standards** **2.G.A Reason with shapes and their attributes.** 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. 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.
DOK Levels:	1, 2
RANGE Achievement Level Descriptor (Range ALD) Target K: Reason with shapes and their attributes.	**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.
Allowable Response Types:	Matching Table; Hot Spot; Drag and Drop; Graphing; Equation/Numeric
Allowable Stimulus Materials:	visual models of quadrilaterals and other shapes
Construct-Relevant Vocabulary:	divide, equal areas, rhombus, rectangle, square, circle, triangle, pentagon, hexagon, quadrilateral, parallelogram
Allowable Tools:	None

Target-Specific 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. Visual graphics may be difficult or not accessible for students who are blind or visually impaired. Reviewing tactile graphs may be time-consuming but not prohibitive. The simplest graphics should be used to minimize this issue.
Non-Targeted Constructs:	None
Accessibility Guidance:	Item writers should consider the following Language and Visual Element/Design guidelines[1] when developing items. Language Key Considerations: • Use simple, clear, and easy-to-understand language needed to assess the construct or aid in the understanding of the context • Avoid sentences with multiple clauses • Use vocabulary that is at or below grade level • Avoid ambiguous or obscure words, idioms, jargon, unusual names and references Visual Elements/Design Key Considerations: • Include visual elements only if the graphic is needed to assess the construct or it aids in the understanding of the context • Use the simplest graphic possible with the greatest degree of contrast, and include clear, concise labels where necessary • Avoid crowding of details and graphics Items are selected for a student's test according to the blueprint, which selects items based on Claims and targets, not task models. As such, careful consideration is given to making sure fully accessible items are available to cover the content of every Claim and target, even if some item formats are not fully accessible using current technology.[2]
Development Notes:	None

[1] For more information, refer to the General Accessibility Guidelines at: http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/05/TaskItemSpecifications/Guidelines/AccessibilityandAccommodations/GeneralAccessibilityGuidelines.pdf

[2] For more information about student accessibility resources and policies, refer to http://www.smarterbalanced.org/wordpress/wp-content/uploads/2014/08/SmarterBalanced_Guidelines.pdf

Task Model 1a

Response Type: Matching Tables

DOK Level 1

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.

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.

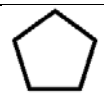
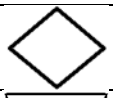
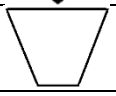
Tools: None

Prompt Features: The student is prompted to select a shape that displays the given attributes.

Stimulus Guidelines:
- Item difficulty can be adjusted via these example methods:
  - Recognizes rhombuses, rectangles, and squares.
  - Recognizes shapes that are quadrilaterals and shapes that are not quadrilaterals.
  - Recognizes shapes based on their attributes.

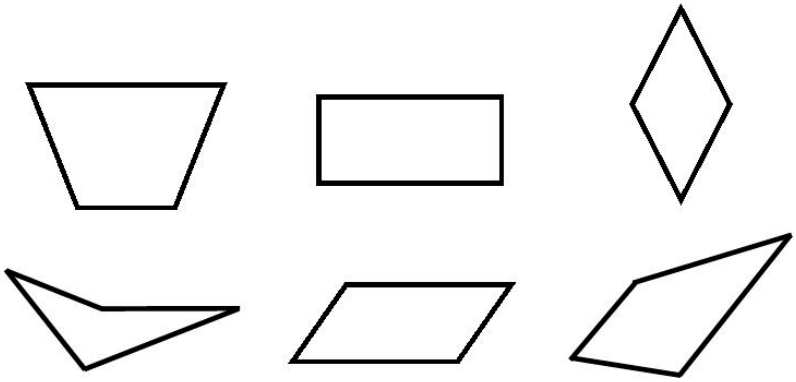
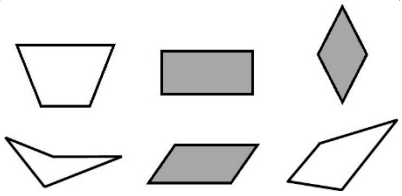
TM1a
Stimulus: The student is presented with a description of a shape which may include:
- the name of the shape (e.g., quadrilateral, parallelogram)
- the attributes of the shape (e.g., 4 sides)

Example Stem: 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

Task Model 1b **Response Type:** **Hot Spot** **DOK Level 1** **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. **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. **Tools:** None **Accessibility Note:** Hot Spot items are not currently able to be Brailled. Minimize the number of items developed to this TM.	**Prompt Features:** The student is prompted to classify shapes by a given category or category and sub-category. **Stimulus Guidelines:** • Item difficulty can be adjusted via these example methods: o Shapes are classified into one category. o Shapes are classified by a category and one of its sub-categories. **TM1b** **Stimulus:** The student is presented with a collection of shapes. **Example Stem:** 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

Task Model 1c

Response Type:
Drag and Drop

DOK Level 1

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.

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.

Tools: None

Accessibility Note:
Drag and Drop items are not currently able to be Brailled. Minimize the number of items developed to this TM.

Prompt Features: The student is prompted to classify shapes by given categories, sub-categories, or attributes.

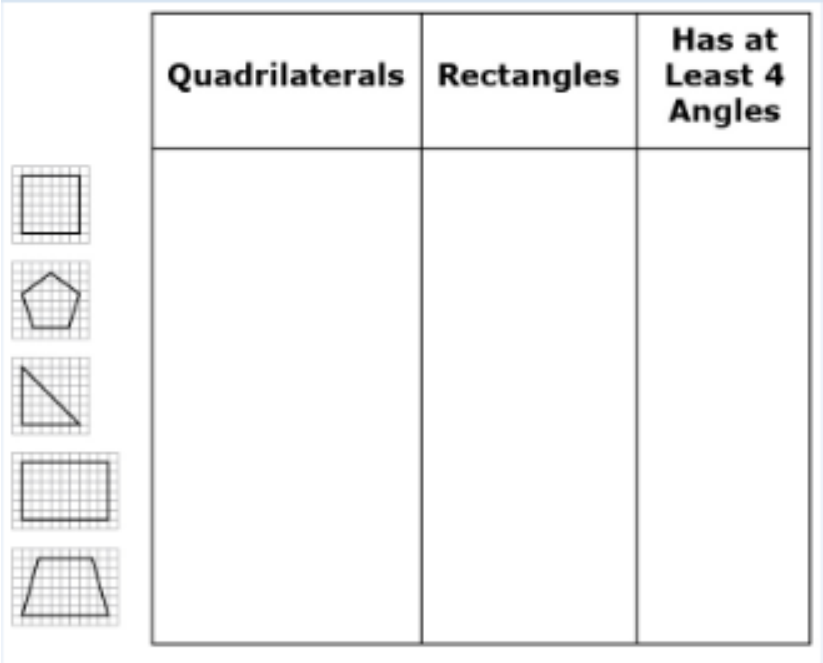
Stimulus Guidelines:

- Shapes will be presented on a visible grid. No right angle symbols will be used.
- Item difficulty can be adjusted via these example methods:
  - Shapes are classified by one category, sub-category, or attribute.
  - Shapes are classified by any two of the following: category, sub-category, or attribute.
  - Shapes are classified by any three of the following: category, sub-category, or attribute.

TM1c
Stimulus: The student is presented with a collection of four or five shapes.

Example Stem: 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.



Task Model 1c

Response Type:
Drag and Drop

DOK Level 1

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.

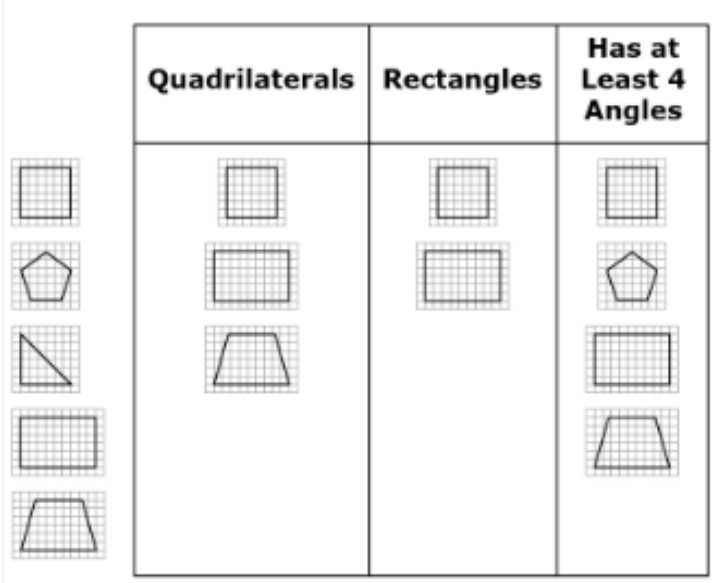
Evidence Required:
1. The student identifies, draws, and classifies shapes (e.g., rhombuses, rectangles, and others) according to their attributes (e.g., having four sides) and recognizes that shared attributes can define a classification category.

Tools: None

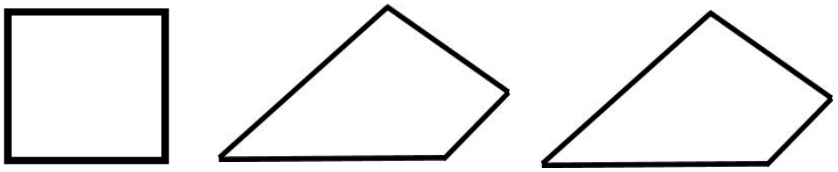
Accessibility Note:
Drag and Drop items are not currently able to be Brailled. Minimize the number of items developed to this TM.

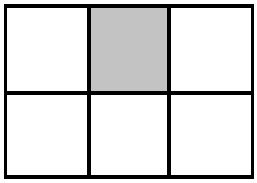
TM1c (continued)

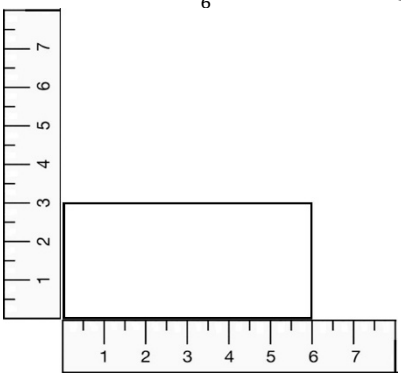
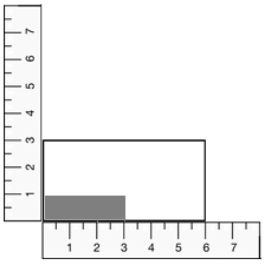
Rubric: (1 point) The student correctly classifies each shape (e.g., see chart below).



Response Type: Drag and Drop

Task Model 1d **Response Type: Graphing** **DOK Level 2** **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. **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. **Tools:** None **Accessibility Note:** Graphing items are not currently able to be Brailled. Minimize the number of items developed to this TM.	**Prompt Features:** The student is prompted to draw a quadrilateral that may or may not belong to one of these subcategories: rhombus, rectangle, or square. **Stimulus Guidelines:** • Item difficulty can be adjusted via these example methods: o Given a set of attributes, draw a quadrilateral that is a rhombus, rectangle, square. o Given name(s) or set of attributes, draw a quadrilateral that is **not** a rhombus, rectangle, or square. **TM1d** **Stimulus:** The student is presented with a grid. **Example Stem 1:** Use the Connect Line tool to draw a quadrilateral where every side is the same length. **Example Stem 2:** Use the Connect Line tool to draw a quadrilateral where every side is a different length. **Example Stem 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

Task Model 2a **Response Type: Equation / Numeric** **DOK Level 1** **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 areas, and describe the area of each part as 1/4 of the area of the shape.* **Evidence Required:** 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. **Tools:** None	**Prompt Features:** The student is prompted to express the shaded area of a partitioned shape as a unit fraction. **Stimulus Guidelines:** • Student enters a unit fraction equal to one part shaded. **TM2a** **Stimulus:** The student is presented with a rectangle or circle that is divided into halves, thirds, fourths, sixths, or eighths, with one part shaded. **Example Stem:** Figure A is divided into equal squares. One square is shaded. **Figure A**  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

Task Model 2b **Response Type:** **Hot Spot** **DOK Level 2** **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 areas, and describe the area of each part as 1/4 of the area of the shape.* **Evidence Required:** 2. The student partitions shapes into parts with equal areas and expresses the area of each part as a fraction of the whole. **Tools:** None **Accessibility Note:** Hot Spot items are not currently able to be Brailled. Minimize the number of items developed to this TM.	**Prompt Features:** The student is prompted to shade a fraction of a rectangle by partitioning the shape into equal parts. **Stimulus Guidelines:** • The size of the rectangle must be able to be partitioned into parts that have an equal size and shape. • The rectangle can have side lengths in whole unit increments from 1 inch to 6 inches. • A unit fraction is given that is equal to one part out of the total number of parts the rectangle can be partitioned into. • Item difficulty can be adjusted via these example methods: o Rulers presented along length and width of rectangle including whole units. o Rulers presented along length and width of rectangle including whole and half units. • Hot Spots will be created for every square inch over the entire area of the rectangle. **TM2b** **Stimulus:** The student is presented with a rectangle with rulers along two adjacent sides. **Example Stem:** 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. (e.g.,  , or any 3 squares shaded) **Response Type:** Hot Spot