CONSTRUCTING TASK: CREATING A GEOMETRY BOOK

STANDARDS FOR MATHEMATICAL CONTENT

MCC3.G.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.

MCC3.G.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.*

STANDARDS FOR MATHEMATICAL PRACTICES

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

At this point, students should be able to describe shapes and sort the shapes according to their attributes. They should know quadrilaterals are polygons with four sides. Quadrilaterals include rectangles, rhombi, and squares. These shapes are a particular type of quadrilateral (parallelograms). Students should identify rhombus, rectangle, square, etc. as examples of quadrilaterals. They should also draw examples of quadrilaterals that do not belong to any subcategory (not rhombi, rectangles, or squares, etc.) such as trapezoids and/ or various sizes and shapes of convex and concave quadrilaterals.

ESSENTIAL QUESTIONS

- What are some differences between the quadrilaterals?
- How are the quadrilaterals alike?
- What is the difference between a trapezoid and a rhombus?

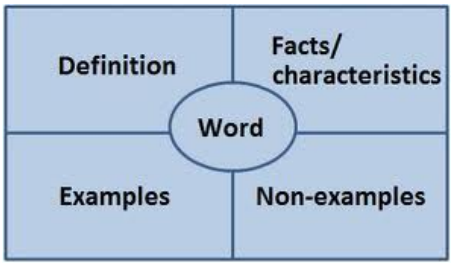
MATERIALS

- Plain Paper
- Crayons, Markers, Color Pencils

GROUPING

Individual or Partner

TASK DESCRIPTION, DEVELOPMENT, AND DISCUSSION



Students will use a vocabulary graphic organizer like the one to the right to make a booklet that demonstrates all that they have learned about the MCC3.G standard including shapes and partitioning shapes into equal areas.
Students could include the words: **triangles, quadrilaterals, pentagons, hexagons, trapezoid, square, rhombus, halves, thirds, fourths, sixths, eighths.** Allow students to make a chart of words that they have learned through this unit. They should be allowed to pick from this list. Share the rubric that is attached with students and then set a deadline for when they should have the project done.

FORMATIVE ASSESSMENT QUESTIONS/PROMPTS

- What did you learn from this unit?
- How will you remember it until next year?
- Which task did you like the most? The least?
- Is there a resource that you liked the most?
- Where can you find facts and characteristics of shapes?

DIFFERENTIATION

Extensions

- Allow for creativity including making models of the vocabulary words.

Interventions

- Students should consult their math journals or anchor charts that were created to help them complete this task. The Frayer model sheet is provided so that students that struggle do not have to recreate the graphic organizer but can focus on filling it in.

Rubric for Vocabulary Words

Name: _____ Date:_____

Indicator	3	2	1
Words Identified	Identified more than 5 words.	Identified 3 or 4 words.	Identified less than 3 words.
Definitions	Definitions were detailed and accurately matched the meaning of the word.	Definitions accurately matched the meaning of the word.	Most definitions accurately matched the meaning of the word.
Facts and Characteristics	Facts and Characteristics were detailed and accurately matched the meaning of the word.	Facts and Characteristics accurately matched the meaning of the word.	Most facts and characteristics accurately matched the meaning of the word.
Example and Non-examples	Example and Non-examples were detailed and accurately matched the meaning of the word.	Example and Non-examples accurately matched the meaning of the word.	Most accurately matched the meaning of the word.
Appearance	Responses were neatly written and easy to read.	Responses were fairly neatly written and readable.	Responses were not neatly written and difficult to read.

Rubric for Vocabulary Words

Name: _____ Date:_____

Indicator	3	2	1
Words Identified	Identified more than 5 words.	Identified 3 or 4 words.	Identified less than 3 words.
Definitions	Definitions were detailed and accurately matched the meaning of the word.	Definitions accurately matched the meaning of the word.	Most definitions accurately matched the meaning of the word.
Facts and Characteristics	Facts and Characteristics were detailed and accurately matched the meaning of the word.	Facts and Characteristics accurately matched the meaning of the word.	Most facts and characteristics accurately matched the meaning of the word.
Example and Non-examples	Example and Non-examples were detailed and accurately matched the meaning of the word.	Example and Non-examples accurately matched the meaning of the word.	Most accurately matched the meaning of the word.
Appearance	Responses were neatly written and easy to read.	Responses were fairly neatly written and readable.	Responses were not neatly written and difficult to read.