PERFORMANCE TASK: Shapes All Around

Approximately 2 days

STANDARDS FOR MATHEMATICAL CONTENT

MCC.K.G.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.

MCC.K.G.2. Correctly name shapes regardless of their orientations or overall size.

MCC.K.G.3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

MCC.K.G.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).

MCC.K.G.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

MCC.K.G.6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*

MCC.K.MD.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

STANDARDS FOR MATHEMATICAL PRACTICE

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

This culminating task represents the level of depth, rigor, and complexity expected of all kindergarten students to demonstrate evidence of learning. The ways in which children describe

shapes in "Shape Sorts" and other similar activities with three-dimensional shapes provides insight into their level of geometric thinking.

ESSENTIAL QUESTIONS

- What makes shapes different from each other?
- What shapes can we see in our world?
- How can we organize information?

MATERIALS

- Student task sheet
- Digital cameras

GROUPING

Initially in small groups, then individually each student will fill in the task sheet

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

Part I
Tell students they will be going on a "field trip" throughout the school and outside to search for examples of the shapes learned in this unit of study. The teacher may start with a "field trip" within the classroom and move to the inside of the building before moving outdoors. Students will record their findings on the student task sheet.

This activity can be done individually, but works best if you can break the class up into small groups of 3-4 students and have a monitor with each group that can take digital pictures of the things they see around the school. Then they can sort the pictures on a poster board to be displayed. It is important that students sort how the pictures should be displayed (if pictures are not available have students draw pictures and label what they saw on the field trip) Students must try and find at least one example of each flat and solid shape.

Part III
After the poster is complete students can work individually to fill out the student task sheet below. Then using modeling clay and toothpicks students should construct one flat AND solid representation of an object they observed while on their trip and verbally explain how they are different and how they match what they are modeled after.

FORMATIVE ASSESSMENT QUESTIONS

- Are students able to identify and describe what makes shapes different from each other?

- Can students recognize the different shapes (circles, triangles, quadrilaterals, spheres, and cubes) in the world around them?
- Are students able to organize the information they gather on the hunt in a clear manner?

DIFFERENTIATION

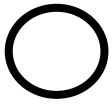
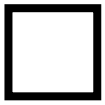
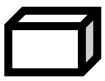
Extension

- Have students create the model from modeling clay without looking at the picture to refer to.
- Tell students that the shapes on the poster board must be sorted other that flat/solid or by shape. There can be multiple groups in the sort, just not solely based from these attributes.

Intervention

- Limit the number of shapes the students must find on the field trip or give a set list and an area in the school where you know these shapes can be found.

Shapes All Around

Shape	Picture of Shape (check off)	Where did you find it? Circle and write
		Above below beside behind in front of next to. _____
		Above below beside behind in front of next to. _____
		Above below beside behind in front of next to. _____
		Above below beside behind in front of next to. _____
		Above below beside behind in front of next to. _____
		Above below beside behind in front of next to. _____
 solid		Above below beside behind in front of next to. _____
solid 		Above below beside behind in front of next to. _____
a shape made from shapes		Above below beside behind in front of next to. _____

Build (1) 3-dimensional shape you discovered on your journey. Display it here, and label it with the correct name.

My shape is a _____.

Name_____