CONSTRUCTING TASK: MEASUREMENT AND ME!

Approximately 1 day

STANDARDS FOR MATHEMATICAL CONTENT

MCC.K.MD.1 Describe measureable attributes of objects, such as length or weight. Describe several measureable attributes of a single object.

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

Students need to understand that they are comparing specific attributes of the objects. In order to do this, they must first identify the attribute to be measured. Objects often have multiple attributes that are measurable, but we compare only one at a time.

ESSENTIAL QUESTIONS

- What qualities of an object can be measured?
- What does it mean to measure something?
- How can I measure something?

MATERIALS

- Measuring Penny by Loreen Leedy or Me and the Measure of Things by Joan Sweeney or any other similar book
- Chart paper
- Bags with 2 items of various length, weight, height and capacity in each bag (examples could include: a box of crayons and a marker, another bag could have a shoe string and a child's belt, a different bag could have an empty bottle and a plastic cup)

GROUPING

Whole group and partner task

TASK DESCRIPTION, DEVELOPMENT, AND DISCUSSION

Gather students together on meeting area and pose question, "What do you know about measurement?" Record the student responses on chart paper. Use this brainstorming time to activate student's prior knowledge, as well as to serve as a pre-assessment. After student responses have been recorded, the teacher may choose to share a book such as Measuring Penny by Loreen Leedy or Me and the Measure of Things by Joan Sweeney or any other similar book about measurement. When choosing a book, please be mindful that comparison of objects is the focus in kindergarten. Essential questions should be introduced in this part of the task. Brainstorm and record the different attributes that can be measured. You may choose to paraphrase the book, and use only the relevant sections.

Next, have partners come to the front and select a pre-made teacher bag. These bags will contain only two items. The partners should discuss what attributes can be measured when comparing the two objects; the teacher should circulate around the room and ask questions about the items to guide student thinking. For example, "Which item is heavier? Which item is longer? Which item is shorter? How did you know?" Partners should record their observations about the attributes of the two objects.

After all bags have been discussed, the teacher should guide students in a discussion to share the discovery of measureable attributes to close the introduction to measurement.

Teacher reflection questions:

- Are students able to compare objects by their size and explain why this would be important?
- Are students able to use mathematical language to describe the measurement of attributes of items?

FORMATIVE ASSESSMENT QUESTIONS

- What attributes did you measure?
- Are there any more ways to compare these objects?
- Why did you decide to measure it this way?
- Which object is heavier (longer, taller, holds more, etc.)? How do you know?

DIFFERENTIATION

Extension

- Students can be encouraged to find objects throughout the room that can be measured with identified attributes or choose another bag to discuss and record observations.

Intervention

- Allow students to work through the stages at a speed that is appropriate for their performance level. Some students may need additional experiences acting out problems, using manipulatives, or drawing pictures.
- Use the chart created during the opening after reading to book to identify attributes that can be compared.