



PRACTICE TASK: RIDDLE ME!

Approximately 1 day

STANDARDS FOR MATHEMATICAL CONTENT

MCC.K.MD.1 Describe measurable attributes of objects, such as length or weight, and identify those attributes of a single object.

MCC.K.MD.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

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

In this task, students are placed in a problematic situation with multiple possibilities for correct answers. Remember, students only compare two objects at a time, so it is imperative that you model how to compare the first object in the riddle to the possible correct answer and then the second object in the riddle to the possible correct answer. For example, if the riddle says, I am heavier than a penny, but lighter than a desk. You will need to model suggesting a possible correct answer such as a shoe and then comparing the shoe to the penny and then comparing the shoe to the desk. It is important to keep several big ideas in mind when circulating throughout the room having math conversations with your students:

- It is important that the students clearly identify the attribute being measured.
- It is important that the students realize that BOTH objects must share the attribute before a comparison can be made.
- Comparing each object in the riddle separately from the possible correct answer.

ESSENTIAL QUESTIONS

- Does it matter how we measure?
- What ways can I measure this object?
- How can I record my information?

MATERIALS

- Riddles for the students to solve. (See attachment at the end of the task)
- Balance scale (optional)
- Items for the children to choose from to fill containers. For example: plastic eggs, tennis balls, golf balls, wads of paper (make them about the same size) (optional)

GROUPING

Individuals or small group task

TASK DESCRIPTION, DEVELOPMENT, AND DISCUSSION

Gather students on meeting area. Show the students a riddle for the class to solve together, making sure to model how to compare only two objects at a time. You will also want to model how to think aloud your reasoning for proving that the answer is or is not correct. Explain to the students that they will be given riddles to solve with their partner. They will need to be prepared to share their answers with the class and be prepared to prove that their answer is correct.

Possible class riddles for modeling your thinking:

I am heavier than a  but lighter than a  desk.

What am I?

I am longer than a  sticky note but shorter than a  clip board.

What am I?

Divide the students into pairs (you may want to consider different abilities for this task and create pairs accordingly) and give each set of students a copy of the “Riddle Me” task page. The students need to discuss with their partner what attributes are being compared and find correct answers in the classroom for the riddles. The teacher should circulate throughout the classroom and ensure that

proper measuring and mathematical conversations are occurring. You will want to consider having a balance scale for the measuring of weight and other manipulatives for the measurement of capacity.

When students complete all (or a majority) of the riddles, allow them time to share their answers. You may want to join partner pairs and have them “prove” to each other that their answers are correct. Make sure that the unit of measurement is identified in verbal math statements. This gives them an opportunity to communicate their discoveries in mathematical language. Discuss with the whole group why it is possible to have more than one correct answer.

Teacher reflection questions:

- Are students able to identify appropriate units for measurement?
- Are students able to determine correctly measure for different attributes?
- Are students able to use mathematical language to describe the measurement of attributes of the 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?
- Are there other possible correct answers?

DIFFERENTIATION

Extension

- Have the students create riddles for their classmates to answer.

Intervention

- Narrow the selection of possible correct answers by having the student choose from a set of objects the answer to the riddle.

ADDITIONAL RESOURCES:

PBS Kids: Clifford the Big Red Dog: http://pbskids.org/clifford/games/measuring_up.html

Riddle Me!

Names of Group Members:

Riddle 1:

I am longer than a  but shorter than a  .
paper clip piece of paper

What am I?

Riddle 2:

I am heavier than a  but lighter than a  .
CD laptop

What am I?

Riddle Me! Continued

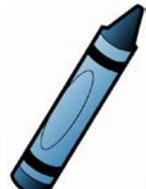
Riddle 3:

I hold more than a  but less than a  .

coffee cup milk jug

What am I?

Riddle 4:

I bigger than a  but smaller than a  .

crayon book

What am I?

Riddle 5:

I am shorter than a  but longer than a  .

window block

What am I?

Riddle Me! Continued

Riddle 6:



I am lighter than a student



book

but heavier than a .
What am I?

Riddle 7:



I hold less than a

bathtub

but more than a



cup .

What am I?

Riddle 8:



I am smaller than a

school bus

but bigger than a



shoe .

What am I?