

You will be teaching a mathematics lesson on measurement to a student with exceptional needs. Using your knowledge of students with exceptional needs, prepare a response in which you:

- Briefly describe the student you will be teaching (e.g., age/grade level/developmental level, exceptionality, strengths/needs).
- Describe **one** important concept or skill related to measurement you would include in this lesson.
- Describe **two** instructional activities and **two** instructional resources, including any applicable technological resources, you would use to teach this concept or skill.
- Explain how these activities and resources would be particularly effective for the student you describe and how you would measure the student's success.

The student I am working with is a 6th grade girl named Mackenzie who is 12 years old and developmentally age-appropriate. She qualifies for Exceptional Children's Services in the category of Specific Learning Disability in the area of math reasoning. She is a strong reader, and enjoys participating in classroom discussions. Writing is also an area of strength for her. Math word problems are an area of weakness for her. She struggles to know where to even begin when faced with a problem that she deems as too long/complicated. She requires repeated instruction in math concepts in order to make progress.

The lesson I am teaching is finding the volume of a cube. I would begin by reviewing the important concept of the difference in the measurements of one-, two- and three-dimensional shapes. I would draw a line and ask Mackenzie what dimension is used to measure a line, and we would talk about how there is only one dimension used- length, so the answer is in plain units. Then I would draw a square and ask how many dimensions a square has. We would talk about how there are two- both length and width. We would talk about how two dimensional shapes are measured using area, and that the answer is given in units SQUARED. Finally, I would draw a cube, and we would talk about how it has three dimensions- length, width and height. We would talk about how three dimensional objects are measured by volume, and that the answers of volume are always given in units CUBED.

The first activity (activity 1) I would do is give Mackenzie a bunch of small wooden 1-inch cubes and a larger clear plastic 4-inch cube with no top (resource 1). I would ask her to estimate the number of small cubes that would fit in the larger cube.

After she estimated, I would ask her to carefully fill up the bottom layer of the large cube with the smaller cubes. She would then place 16 cubes in the bottom layer. I would ask her to write down the number of cubes in one layer, and she would write 16. Then I would ask her to fill up the next layer, and again write down the number of cubes she used- again she would write 16. I would have her do this two more times until the entire big cube was full. I would then have a discussion with her, asking how many cubes were in one level (16) and how many levels she used (4) and then I would ask her to come up with a formula. Together, we would discover that the formula for the volume of a cube is $V=l \times w \times h$ or $V=Bh$ (where big B is the area of the base).

Next, (activity 2) I would have Mackenzie write down in her math journal a paragraph explaining what we did to find the volume of the cube. Because she is so verbal, Mackenzie learns things and retains things better when she is forced to put them into her own words.

Finally, (activity 3) I would have Mackenzie continue to practice this skill on the computer using a program called IXL (resource 2). I would assign the 6th grade topic of volume of a cube, and she would proceed to work on practice problems at her own pace until she earned a "smart score" of 80, indicating she knew what she was doing. The benefit of this program is that it gives extra practice to kids who need it, but doesn't make kids who show mastery continue if they already understand it.

I would measure her success using an exit ticket paper with 4 problems.

Making sure everyone knows:

Component 1: Constructed Response Exercises:

The prompts that appear in each of the 3 Sample Exercises are the EXACT ONES you'll have on your assessment at the Assessment Center - THE EXACT ONES.

The SCENARIOS change, but the PROMPTS will be the same.

DIFFERENT SCENARIOS! SAME PROMPTS!

- You'll receive a white board (or equivalent) when you arrive.
- Come with a student or student composite in mind. Use your own students as a model.
- Come with several strategies in mind - effective strategies that can be used in a variety of learning situations. *"One strategy I'd use for __, is _____. Another strategy I'd use is _____."*
- Come with the rationales for choosing those strategies in mind. *"I would use this strategy because _____."*
- Once settled, jot those strategies down on the whiteboard for reference.
- Write mainly in the 1st person with active voice verbs - just like you did in C2, 3, and 4.
- Exercises will cover the ENTIRE AGE RANGE of your certificate.
- Math candidates: CR Exercises are mainly problem solving with some content analysis.

- Most other certificates are heavy on pedagogy.
- Your SAMPLE EXERCISES, shown in your C1 instructions will guide you.