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.*

Harper is a 8 year old 2nd grade student. Harper qualifies for exceptional needs in the category of Specific Learning Disability--dyslexia and dyscalculia. She qualifies for math problem solving. She is very low range in math and low range in reading, writing, and spelling.

- Strengths: kind, hard worker, single digit addition, oral expression, collaboration with peers
- Needs: reading 2 levels below grade level, number sense within 1000, problem solving, multi-digit addition and subtraction

This lesson will focus on the concept of moving from non-standard to standard units of measurement. The lesson will include discovery about why we use standard units.

Instructional Activities

1. The 1st activity I would use to teach this lesson would be to have Harper measuring several items in the room using paper clips, cubes, and an item of HER choice. She would work collaboratively with a partner during this activity--this way her partner can be responsible for the writing of the measurements and explanation. I would then have her using a standard ruler to measure the same items. Her partner would be writing the data on a chart to then discuss which unit of measurement was the most accurate, efficient, and useful. Harper and her partner would have collaborative conversations about this activity and determine which unit of measurement non-standard or standard is the best. Harper and her partner would present their findings to the class; this capitalizes on Harper's strong oral communication skills.
2. The 2nd activity is that I would have Harper answering a problem solving question where she has to use standard measurement units to solve a problem about building a pool with a fence in the backyard and determining how much fencing to purchase. Harper would work in a collaborative group with 2 other students to complete this activity. TThis allows Harper to have a partner read the problem to her to accommodate her dyslexia. Harper would first draw the model

of this problem and then use standard units to solve the problem. She would need to use her knowledge and skills in addition to solve this problem.

Instructional Resources

1. One instructional resource I would use is a video that would discuss non-standard vs standard units. This video would allow Harper to activate her prior knowledge and think about what the 2 types of measurement units are.
2. The other instructional resources would be the measurement units: paper clips, cubes, a unit of her choice, and a ruler to explore this concept concretely. She would use paper and pencils/crayons in order to create the pictorial representation of her pool and fence. This is an engaging topic with summer starting and kids excited about pools and swimming. This also is a real world example of when we would use standard measurement. Then she would use addition strategies to solve the problem.

These activities and resources are effective for Harper because they take her from concrete to pictorial to abstract understanding of measurement. She would start by engaging her prior knowledge. She would then be using inquiry based learning to determine why we have standard units of measurement. She is able to construct her own meaning and explanation about non-standard vs standard units of measurement. These activities and resources build upon Harper's need for multisensory learning---she is able to use kinesthetic, visual, auditory, and tactile methods to learn. This meets the exceptional needs of her dyslexia and dyscalculia. Working in collaborative groups allows Harper to orally discuss with her partner(s) the concepts and practice what she is going to say before presenting to the class. This also gives her an opportunity to be an expert in the group during the addition portion.

I would measure Harper's success using informal observations during the activities watching how she problem solves and communicates with her partner(s). I plan to evaluate if Harper is able to fully explain why we most often choose standard measurement units over non-standard. I would ask Harper to complete an exit ticket stating her thoughts on this. I would use a formative assessment with a similar problem to the pool/fence problem solving to see how Harper is able to apply what she learned independently. I would also use a summative assessment at the end of this measurement unit to see how Harper is able to apply her knowledge of non-standard and standard units of measurement.

The **LEVEL 4** response shows *clear, consistent, and convincing* evidence that the candidate is able to provide a thorough discussion and explanation of instructional strategies and resources for teaching a numeracy concept or skill to a student with exceptional needs.

Characteristics:

- The response provides a brief description of a student with exceptional needs and describes one important concept or skill related to a numeracy topic.
- The response provides a thorough description of two instructional activities and two instructional resources for teaching the numeracy concept or skill to the student.
- The response provides a thorough, in-depth explanation of how these instructional activities and instructional resources would be particularly effective for the student and of how the candidate would evaluate the student's success.

The **LEVEL 3** response shows *clear* evidence that the candidate is able to discuss and explain instructional strategies and resources for teaching a numeracy concept or skill to a student with exceptional needs.

Characteristics:

- The response provides a brief description of a student with exceptional needs and describes one important concept or skill related to a numeracy topic.
- The response describes two instructional activities and two instructional resources for teaching the numeracy concept or skill to the student.
- The response explains how these instructional activities and instructional resources would be effective with the student and how the candidate would measure the student's success.