MEASURING UP

Performance Standard (7B/7C).A

Estimate length, weight and capacity when compared to given reference points and choose appropriate units of measure in various examples:

- *Mathematical knowledge:* Use appropriate units of measure to estimate and determine length, capacity and weight.
- *Strategic knowledge:* Choose appropriate units of measurement and apply them correctly to various situations.
- *Explanation:* Explain completely what was done and why it was done.

Procedures

1. ***In order to estimate measurements and determine acceptable levels of accuracy (7B) and select and use appropriate technology, instruments, and formulas to solve problems, interpret results, and communicate findings (7C),*** students should experience sufficient learning opportunities to develop the following:
   - Estimate nonstandard measurement of length, weight, and capacity.
   - Choose appropriate nonstandard measurement units to measure length, weight and capacity (e.g., number of handfuls of cubes to fill a container).
2. This task should be done individually at a center which offers various nonstandard units of measure.
3. Teacher reads the student task sheet as student chooses the appropriate card to answer the question. Student copies the word from the appropriate card on the student task sheet.
4. Length – Students measure a pencil with Unifix cubes then estimate the length of 3 other pencils in Unifix cubes
5. Capacity – Students fill a measuring cup with unifix cubes and then estimate 3 other containers based on this nonstandard measurement
6. Weight – Students weigh a calculator in a balance scale with Unifix cubes then estimate the weight in unifix cubes of 3 other objects
7. Evaluation: Mathematical knowledge—the student correctly identifies the units of measurement for length, capacity and weight. Strategic knowledge—student uses the correct units of measurement to obtain results. Explanation—explains why the units must be used in the given situations.

Examples of Student Work not available

Time Requirements

- 15 - 20 minutes

Resources

- Cards with the following words and pictures on them: Ruler, scale, cup, clock, thermometer, yardstick, weight, length, and capacity
- Various capacity containers, measuring cup (Containers should include capacities that are more and less than a cup
- Various objects to measure and weigh with nonstandard units, 4 different length pencils, calculator
- Unifix cubes
- Copies of the "Measuring Up" recording sheet
- Mathematics Rubric

NAME _____ **DATE** _____

MEASURING UP

Student Recording Sheet
9 points - 1 point each

PART 1

Spread the cards out in front of the student and read them aloud.

Teacher: I want you to pick the card that answers my question and write it on your sheet.

1. 1.What would you use to measure how long a piece of paper is?

---

2. What would you use to measure how heavy an apple is?

---

3. What would you use to measure the temperature outside?

---

4. What would you use to measure how tall a wall is?

---

5. What would you use to measure sugar for a recipe?

---

6. What would you use to measure time?

---

7. What would you be measuring if you wanted to know how heavy something is?

---

8. What would you be measuring if you wanted to know how long something is?

---

9. What would you be measuring if you wanted to know how much something can hold?

PART 2

LENGTH

7 points total – 1 point per box

Teacher: Measure pencil #1 with your unifix cubes. Then estimate how many cubes long is pencil #2, #3, and #4.

PENCIL	ESTIMATE	ACTUAL
#1	XXXXXXXXXXXXXX XXXXXXXXXXXXXX	
#2		
#3		
#4		

CAPACITY

2 points – 1 point per group

Teacher: Fill the measuring cup with cubes. Sort the other containers into two groups. 1 group will hold less than the cup and the other group will hold more than a cup.

WEIGHT

2 points – 1 point per object estimated

Teacher: Use the balance scale to find the weight of the calculator in tiles. Find two objects in he room that weigh about the same amount in tiles.

_____/ 20 points