

Manchester College
Education Department
Chase Estepp

Lesson: ___Metric Length_____

Length: ___50 Minutes_____

Age or Grade Level Intended: ___4th Grade_____

Academic Standard(s):

Math 4.5.1 Measure length to the nearest quarter-inch, eighth-inch, and millimeter.

Performance Objective: The student will measure the length of their foot in centimeters and millimeters using a ruler.

Assessment: Check the student's worksheets after they have finished creating their "Feet Graph" and make sure they labeled each axis correct and number the axes equally.

Advanced Preparation by Teacher:

- Print off the worksheet
- Prepare the SMART board
- Centimeter Ruler and meter stick for each student

Introduction/Motivation: Okay boys and girls, we finished up our measurement chapter yesterday, but we are going to continue working with measurement only in the metric system. Today we will work with millimeters, centimeters, meters, and kilometers.

Step-by-Step:

- 1.) First we are going to do a quick review to check and see if you know how to use a ruler for centimeters and are familiar with the metric system.
- 2.) Just so that you guys understand how long a meter is, we know that a yard is 3 feet long, and then we are going to learn that the meter is just a bit longer than the yard.
- 3.) Let's take a look at the ruler that I handed out to you, look at the centimeter side. Take your ruler and measure the butterfly at the top of the page. Now look at your ruler and

measure the butterfly in millimeters. Let's compare those two numbers. What is the correlation? There are 10 millimeters in a centimeter.

4.) Now let's get with a partner and measure the width of our index finger and then the width of our whole hand from thumb to pinky. After you have measured yours and recorded it then switch and let your partner measure theirs. Would you use millimeters to measure the width of your hand?

5.) Couldn't we use a bigger measurement that wouldn't require as big of a number? We could use centimeter instead because that is a bigger measure than millimeter.

6.) Now take a look at the different objects I have listed on the SMART board, who wants to come up to the board and measure these objects and then list underneath them the measurement? Why did you select to use a millimeter, centimeter, or meter for each object?

7.) Then we are going to use a ruler to measure the length of our feet. First I want you to take off your shoe, and then lay the ruler beside your foot and measure your foot using centimeters. Then I want you to write that down because later we are going to use your foot size to graph it and compare it to the rest of the class.

8.) I will then pass out the graph worksheet to the students and we will go over how we are going to label the axis and the title we will give to the graph. We also need to make sure that we count equally between each line while deciding where we need to start and stop.

9.) I am going to use the SMART board to create a graph so that the students can follow along as we graph how many students had a foot size of __ cm.

Closure: Good job today of learning about the metric system and how it is different from the normal inches, feet, and yards that we are familiar with. We will continue working with the metric system and tomorrow we will start learning how to convert a metric unit that we measure into a different unit.

Adaptations/Enrichments: Challenge the student to find an object in the classroom that they think would require them to use a meter stick. Ask them why they wouldn't use a centimeter or millimeter.