

Using Metric Measurements

4th Grade Math- Schanen

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TEKS:

4.8 Geometry and Measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:

(A) identify relative sizes of measurement units within the customary and metric systems

(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate

Materials:

1. **Nametags with the following labels (25 of each): I am a square, I am a wide rectangular, I am a long rectangle.**
2. **Meter sticks**
3. **Trundle wheels**
4. **Index cards**
5. **Are you a Square? Student hand-out**
6. **Metric Madness with graph student hand-out**

Engage: 5 minutes

Prezi Presentation to introduce the activity.

http://prezi.com/n7s4jiguoydf/?utm_campaign=share&utm_medium=copy&rc=ex0share

Introduce measurement tools: meter stick, meter trundle wheel, transect line

Introduce vocab: Millimeter, Centimeter, Meter, Kilometer

1. What are millimeters? Centimeters? Meters? Kilometers?
2. Are they somehow related?
3. What kinds of things can we measure?

Explore: 15-20 minutes

During this time the class will be split into to two groups with two different activities:

Are you a square: The first group will be completing an activity where they have to measure their height and their arm span to determine whether they are a square shape, tall rectangle, or wide rectangle. The students will make predictions prior to completing the measurements. The students will use meter sticks to complete this activity.

How far: The second group will be completing an activity where they have to guess how far it is from their classroom to the pavilion they go to for PE. After students have determined their predictions they will then use trundle wheels to measure in meters the distance from their classrooms to the pavilion.

- 1) What kind of rectangle are you?
- 2) How far is it to PE?
- 3) Can you measure the distance to PE in centimeters? Why didn't we?

Explain: 5-10 minutes

- 1) After students have completed both activities we will come back together in the classroom to discuss what we have learned.
- 2) At this time we will discuss the different types of metric measurements, their units, and what type of tools we can use to measure these units. We will complete an anchor chart with the students.
- 3) Go over smart board activity asking students about metrics, body shapes, measurements and graphing their shapes.

file:///C:/Users/rogabel/Downloads/meter%20tape%20lesson.pdf

1. What are some types of measurements that you have learned about today?
2. Describe how you can use different tools to measure the distance from one place to another?
3. Which is larger a millimeter or centimeter? A meter or a kilometer?
4. What would be a reasonable unit of measurement for the following:
 - a. Computer screen?
 - b. Length of door?
 - c. Length of the school parking lot?
5. Why would you measure the distance across the United States with Kilometers instead of Meters?
6. Is it possible to convert measurements within the customary and metric systems?

Elaborate: 10-15 minutes

1. The students will make a class graph showing what shape they are from the Explore activity.
 - How many students were perfect squares?
 - How many more were wide rectangles than squares?
 - Why do you think most birds are wide rectangles?

Evaluate: 5- 10 minutes

Students will each receive an index card where they will get to write about what something they learned today. At the end of class the students will turn in their index card as their exit ticket.