

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

## The Metric System Labette

At your school, tryouts for the school El Equipo Escandalosa de Fisica are coming up. The new coach, who just came here from Spain, has decided that in order to tryout for the team you must be at least 153 centimeters tall.

### Materials

- 6 in ruler with cm
- meter stick with in
- string, (~3 m long)

Question: Can anyone in your lab group try out for the team? Make a Prediction

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### Procedure

1. Lie down on the ground, like a trophy of your favorite activity.  
Be classy.
2. Look at the table on the next page. Will you be able to make these measurements? If not, can you convert to get these measurements?
3. Measure each body part using metric units. Record your answer in the table on the next page.



heel

**Record Your Observations**

**Data Table: The Metric System from**

<b>Body Part</b>	<b>Meters (m)</b>	<b>Centimeter (m)</b>	<b>Kilometers (Km)</b>	<b>Micrometers (<math>\mu\text{m}</math>)</b>	<b>Millimeters (mm)</b>
<b>Top of head to bottom of heel</b>					
<b>Tip of shoulder to tip of middle finger</b>					
<b>Top of hip bone to bottom of heel</b>					
<b>Back of heel to front of big toe</b>					
<b>Center of knee cap to bottom of foot</b>					
<b>Circumference of widest part of head</b>					
<b>Tip of elbow to tip of middle finger</b>					
<b>Shoulder width</b>					

## Analyze the Results

1. Complete the table by converting this measurement into the other metric units. For example, if your subject's length is 1.9 meters, then you would convert the 1.9 meters to 190 centimeters, 1900 millimeters, etc. Micrometers and nanometers can be written using scientific notation.
2. Label the full-size figure on the butcher paper with the measurements from the table. Show all work on the table and on the poster. Each group member must finish a different box in each row. Be sure to plan out beforehand how you will label the diagram to make sure it is easily readable and neat. Be classy!
3. After completing the labeled diagram, show it to your teacher for approval then, in your groups, answer the questions below.

4. Compare your measurements across each row. How are they similar? How are they different?

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5. How should you determine which metric unit is best to use for a particular body part measurement?

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6. Why do you think the scientific community and most countries in the world use the metric system rather than the English system (the system we use in the U.S.)?

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7. In your opinion, which system is better, the English system or the metric system? Why?

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