

MEASURING

Measuring Distance

Use metric rulers or meter sticks to measure the length of objects.

MATERIALS

- metric ruler
- meter stick

Some important measuring tips:

- The ends of rulers are often imperfect, therefore begin your measurements from the 1-centimeter (1 cm) mark—then remember to subtract 1 centimeter from the apparent measurement.
 - Always remember to estimate any lengths that extend beyond the marked units. For example, if a meter stick shows centimeters but not millimeters, you can estimate the length that an object extends between centimeter marks to measure it to the nearest millimeter.
 - If you are taking repeated measurements, always measure from the same point each time. For example, if you're measuring how high two different balls bounce when dropped from the same height, measure both bounces at the same point on the balls—either the top or the bottom. Do not measure at the top of one ball and the bottom of the other.
1. Draw a rectangular box in the space below that is 8.4 cm long by 5.1 cm wide.

2. Take a close look at the meter stick and metric ruler.

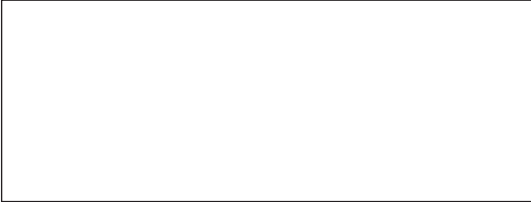
- a. How many centimeters are in meter? _____
- b. How many millimeters are in a centimeter? _____
- c. How many millimeters are in a meter? _____

Name _____

Period _____

Date _____

3. Based on the rectangular box you drew on the previous page,
- How much greater than 8 cm is the length? _____ mm
 - How much greater than 5 cm is the width? _____ mm
4. Using the metric ruler, measure the height of this page in centimeters. Be sure to place the bottom of the page at the one centimeter mark.
- Number of centimeters where the metric ruler meets the top of the page: _____
 - Final measurement ($a - 1$): _____ cm
5. Use the meter stick to measure the distance across the classroom to the nearest unit marked on the meter stick.
- Which unit is best for this measurement (meter, centimeter, or millimeter)?

 - Based on your answer above, how many whole units is the distance across the classroom? _____
 - What is the next smallest unit, and how many did you measure beyond the whole units? _____
6. Measure the width of your shoe and the shoes of two classmates. Make a diagram to show where on the shoes you measured.
- Your shoe: _____ Diagram: 
 - Classmate A's shoe: _____
 - Classmate B's shoe: _____
 - Explain why it is important to measure each shoe the same way.

Challenge Suppose you only had a piece of a broken ruler that was a few centimeters long. Describe a procedure you could use to measure the length of your shoe with this piece of ruler.
