

The Need for Smaller Units

A. Complete the sentences with the correct word or number.

1. To measure the thickness of a smartphone, the most appropriate unit is _____.
2. There are _____ milliliters in 3.5 liters.
3. The prefix "centi-" means one _____.
4. When a more precise and accurate measurement is needed, you should choose a _____ unit.
5. 4 meters and 25 centimeters is equal to a total of _____ centimeters.

B. Match the Following;

Match the term in Column A with its correct description or function in Column B.

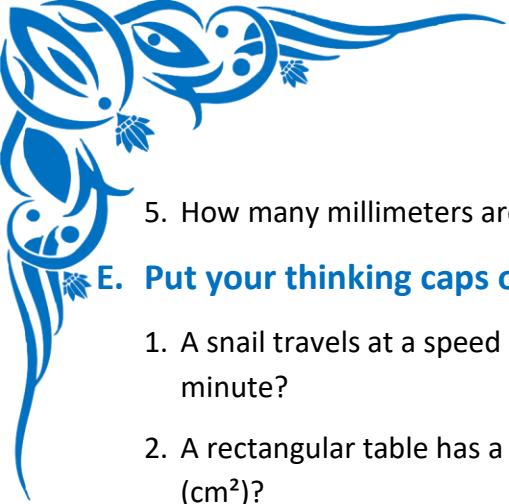
Column A (Object to Measure)	Column B (Unit of Measurement)
1. The mass of a feather	A. Kilometers (km)
2. The volume of a swimming pool	B. Millimeters (mm)
3. The length of a football field	C. Grams (g)
4. The thickness of a credit card	D. Meters (m)
5. The distance to a neighboring town	E. Kiloliters (kL) or Liters (L)

C. Convert the following measurements. Show your work where necessary.

1. Convert 4.5 kilometers (km) to meters (m).
2. Convert 2500 grams (g) to kilograms (kg).
3. Convert 0.85 liters (L) to milliliters (mL).
4. Convert 320 centimeters (cm) to meters (m).
5. Which is heavier: 3.2 kg or 3300 g?

D. Answer these quick questions to get your brain warmed up!

1. How many centimeters are in 1 meter?
2. How many grams are in 1 kilogram?
3. Which is longer: 1 meter or 1 kilometer?
4. To measure a single dose of cough syrup, would you use Liters (L) or Milliliters (mL)?



5. How many millimeters are in 1 centimeter?

E. Put your thinking caps on for these tricky problems!

1. A snail travels at a speed of 0.008 meters per second. How many centimeters does it travel in one minute?
2. A rectangular table has a length of 1.2 m and a width of 80 cm. What is its area in square centimeters (cm^2)?
3. A bottle contains 2 L of juice. If you pour out 15 glasses, each holding 120 mL, how much juice (in mL) is left in the bottle?
4. The average human hair is about 100 micrometers (μm) thick. If 1000 micrometers = 1 millimeter, how many human hairs would you need to stack to reach a thickness of 2 centimeters?
5. A box weighs 0.2 kg when empty. When filled with 50 identical metal bolts, it weighs 3.7 kg. What is the mass of a single bolt in grams?

F. Apply your knowledge to these real-world scenarios.

1. A baker's recipe calls for 0.25 kg of flour. He only has a measuring spoon that measures in grams. How many grams of flour does he need?
2. Priya is building a bookshelf. The total length of a shelf needs to be 1.2 meters. She has a piece of wood that is 115 cm long. Is the piece of wood long enough? If not, by how many centimeters is it too short?
3. A car's fuel tank has a capacity of 50 L. If it currently contains 12,500 mL of fuel, how many more liters of fuel are needed to fill the tank?
4. An athlete runs a 5 km race. She stops for a water break after running 3200 m. How many more meters does she have left to run?
5. To make a science project volcano erupt, you need to mix 0.1 L of vinegar with 0.02 kg of baking soda. For a much bigger eruption, you want to use 500 mL of vinegar. How much baking soda, in grams, would you need to keep the ratio the same?

G. True or False

1. 600 grams is heavier than 1 kilogram. _____
2. To convert from kilometers to meters, you should divide by 1000. _____
3. It is more practical to measure the distance between two cities in centimeters. _____
4. 3.05 L is equal to 305 mL. _____
5. Millimeters, centimeters, and meters are all units of volume. _____