

Measurement Unit Conversions

Appropriate Units and Estimation

1. For each scenario below, identify the most appropriate metric unit from the list (mm, cm, m, km, mg, g, kg, tonne, ml, L, m³):

Scenario	Most Appropriate Unit
The weight of a single piece of fruit	
The distance of a major highway between two cities	
The amount of liquid medicine in a tiny bottle	
The height of a bookshelf	
The capacity of a large public swimming pool	
The weight of a fully loaded cargo ship	

2. Estimate the following measurements, stating your estimate and the unit you would use:

- a. The length of your forearm.
- b. The mass of a new pencil.
- c. The volume of water in a kitchen sink.

Length and Mass (Single Dimension)

3. Convert the following lengths:

- a. 6.2 m to cm
- b. 1,850 mm to m
- c. 0.009 km to m
- d. 2.5 cm to mm
- e. A long road is 650 km. What is this distance in metres?

4. Convert the following masses:

- a. 1.2 kg to g
- b. 50 mg to g
- c. 3.5 tonnes to kg (1 tonne = 1000 kg)
- d. 75 g to kg
- e. A truck carries 15,000 kg of produce. What is this mass in tonnes?

5. Order the following lengths from smallest to largest:
0.4 m, 45 cm, 400 mm, 0.005 km

Area Conversions (Squared Units)

6. Convert the following areas:

- a. 0.5 m^2 to cm^2
- b. $20,000 \text{ mm}^2$ to cm^2
- c. 0.003 km^2 to m^2
- d. 500 cm^2 to m^2

7. A block of land is 1.2 hectare. What is the area of the land in m^2 ? (
 $1 \text{ hectare} = 10,000 \text{ m}^2$)

8. A hall floor is 400 m^2 . What is the area of the hall in cm^2 ?

Volume and Capacity Conversions (Cubed Units)

9. Convert the following volumes:

- a. 3 m^3 to cm^3
- b. $2,500 \text{ mm}^3$ to cm^3
- c. 0.0001 m^3 to cm^3

10. Convert the following capacities (remember $1 \text{ L} = 1000 \text{ ml}$ and $1 \text{ m}^3 = 1000 \text{ L}$):

- a. 4.8 L to ml
- b. 50 ml to L
- c. 1.3 m^3 to L
- d. 250 L to m^3

11. A block of metal is $20 \text{ cm} \times 10 \text{ cm} \times 5 \text{ cm}$. Calculate its volume in mm^3

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12. A large cylindrical water tank holds 2000 L of rainwater. How many 500 ml bottles of water could be filled from the tank?

