Different Units of Measurement

Different Units of Measurement

- Measurement is used to find how long, heavy, or full something is.
- We use different standard units for measuring length, weight, and capacity.
- These units help us measure things accurately and easily.

Units of Length

- Used to measure how long or tall something is
- Common units: millimeter (mm), centimeter (cm), meter (m), kilometer (km)
- 10 mm = 1 cm, 100 cm = 1 m, 1000 m = 1 km

Measures of Length

A relationship between the units of length is given below:

10 millimetres	=	1 centimetre	(10 mm = 1 cm)
10 centimetres	=	1 decimetre	(10 cm = 1 dm)
10 decimetres	=	1 metre	(10 dm = 1 m)
10 metres	=	1 decametre	(10 m = 1 dam)
10 decametres	=	1 hectometre	(10 dam = 1 hm)
10 hectometres	=	1 kilometre	(10 hm = 1 km)

Units of Weight

- Used to measure how heavy something is
- Common units: milligram (mg), gram (g), kilogram (kg)
- 1000 mg = 1 g, 1000 g = 1 kg

Measures of Weight

A relationship between the units of mass is given below:

10 milligrams	=	1 centigram	(10 mg = 1 cg)
10 centigrams	=	1 decigram	(10 cg = 1 dg)
10 decigrams	=	1 gram	(10 dg = 1 g)
10 grams	=	1 decagram	(10 g = 1 dag)
10 decagrams	=	1 hectogram	(10 dag = 1 hg)
10 hectograms	=	1 kilogram	(10 hg = 1 kg)

Units of Capacity

- Used to measure how much liquid a container holds
- Common units: milliliter (ml), liter (l)
- 1000 ml = 1 l

Measures of Capacity

(A relationship between the units of capacity is given below:

10 millilitres	=	1 centilitres	(10 m*l* = 1 c*l*)
10 centilitres	=	1 decilitre	(10 c*l* = 1 d*l*)
10 decilitres	=	1 litre	(10 d*l* = 1 *l*)
10 litres	=	1 decalitres	(10 *l* = 1 da*l*)
10 decalitres	=	1 hectolitre	(10 da*l* = 1 h*l*)
10 hectolitres	=	1 kilolitre	(10 h*l* = 1 k*l*)

Mixed Examples with Solutions

Example: Which is longer: 3 m or 300 cm?

Solution: 300 cm = 3 m → Both are equal

Example: Convert 2500 g into kg

Solution: 2500 g = 2500 ÷ 1000 = 2.5 kg

Example: A bottle holds 2 l of water. How many ml is that?

Solution: 2 l = 2 × 1000 = 2000 ml

Example: Raju walked 2 km and Ravi walked 800 m. Who walked more?

Solution: 2 km = 2000 m, so Raju walked more

Example: A watermelon weighs 3 kg and a packet of sugar weighs 1500 g. Which is heavier?

Solution: 1500 g = 1.5 kg, so 3 kg > 1.5 kg → Watermelon is heavier

Summary Points

- Different physical quantities need different units of measurement.
- Length is measured in mm, cm, m, km.
- Weight is measured in mg, g, kg.
- Capacity is measured in ml and l.