



Note: The given content need not to be printed.

Chapter No. 11 Measurements (page no. 152) Revision

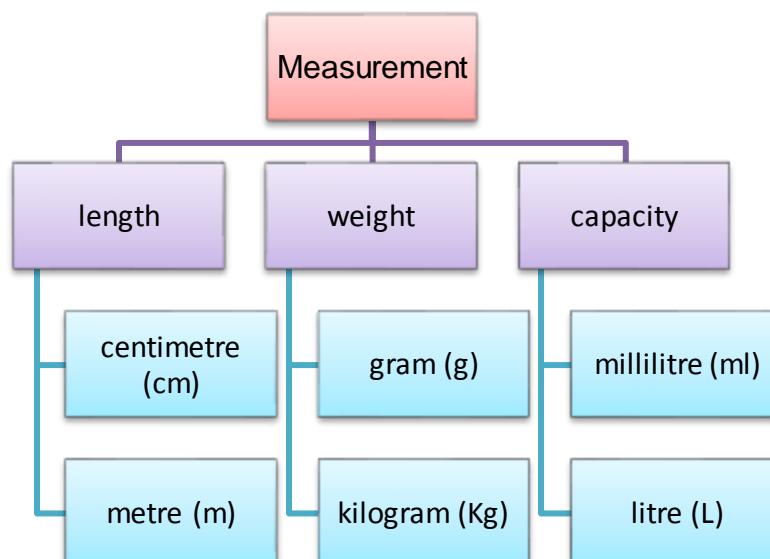
Objective: The students will be able to recapitulate units for measuring Length, Weight and convert its units.

Measurement helps us to describe different things around us. In earlier times, there were no standard units of measurement. Length or width of fingers, arms and feet were used as units of measurement.

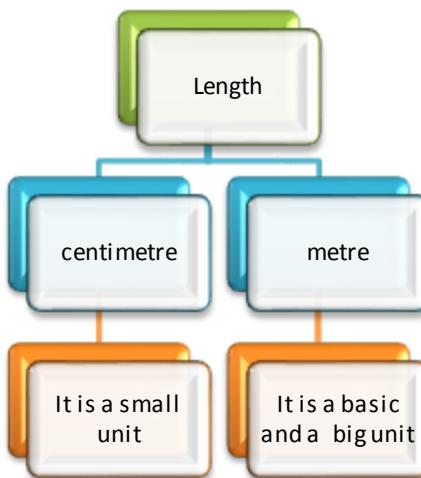
However, this system was not effective as every one's fingers, arms and feet were not of the same size. Thus, a standard system of measurement was required.

The system that was then developed is called the metric system. In this chapter, we will learn standard ways of measuring length, mass and capacity.

These different measures are used in our daily life.



Measurement: Length



Tools used in measuring

Points to remember:

1. Length is the distance between the two ends or points of something (e.g. table, book, box, pencil etc). It also tells us how long or short an object is.
2. The standard units of measurement of length are centimetre, metre and kilometre.
3. Short forms of standard units of length are cm for centimetre, m for metre and km for kilometre.
4. We measure short length in centimetres for example, Length of a pencil.
5. Longer lengths are measured in metres for example length of a wall.
6. **1m = 100cm**

Conversion of metres into centimetres: While converting metres into centimetres, we multiply metres by 100.

Example 1 : Convert 3m into centimetres.

Sol: We know that

$1\text{m} = 100\text{cm}$

Therefore $3\text{m} = 3 \times 100\text{ cm}$
= 300 cm

Conversion of metres and centimetres into centimetres: To convert metres and centimetres into centimetres, first convert metres into centimetres and then add the given centimetres.

Example 1 : Convert **5m 12 cm** into centimetres.

Sol: $5\text{m } 12\text{cm} = 5\text{m} + 12\text{cm}$
= $5 \times 100\text{cm} + 12\text{ cm}$ [because $1\text{m}= 100\text{cm}$]
= $500\text{cm} + 12\text{cm} = 512\text{cm}$

Conversion of centimetres into metres: While converting centimetres into metres, we divide centimetres by 100.

Example 1: Convert **500cm** into metres.

Sol: $500\text{ cm} = \frac{500}{100}\text{ m} = 5\text{m}$ [$1\text{ cm} = \frac{1}{100}$]

Measuring long distances: Metres and centimetres are used to measure small lengths. We cannot measure long distances with these units, for this, we use kilometres. Kilometre is written as 'Km'.

1 Kilometre = 1000 metres / (1 km = 1000 m)

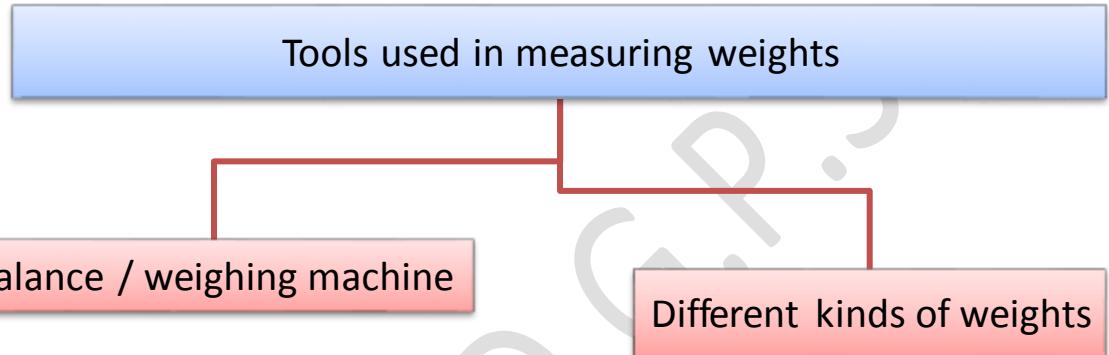
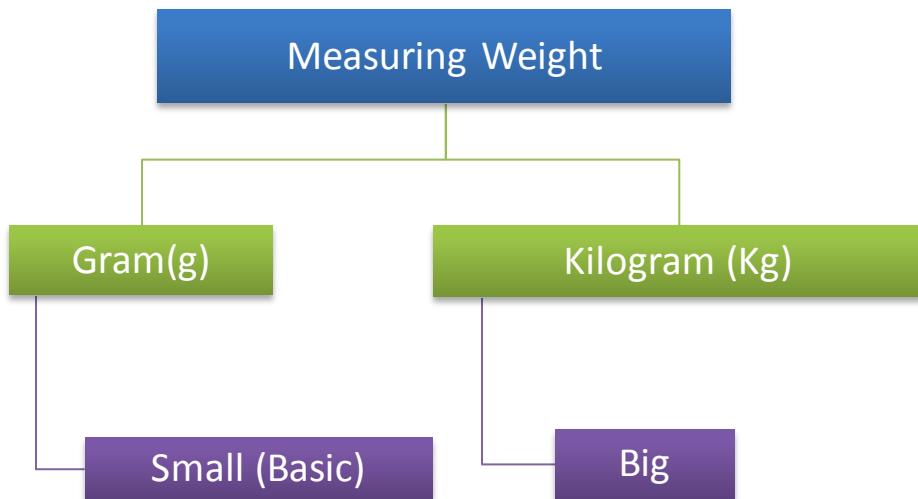
Conversion of Kilometres and metres:-

To convert Kilometres into metres, we multiply it by 1000.

To convert Kilometres and metres into metres, we multiply the number of kilometres by 1000 and then add number of metres to it.

Example 1 : Convert **8 Km 423m** into metres.

Sol :- $8\text{ Km } 423\text{m} = 8\text{Km} + 423\text{m}$
= $8 \times 1000\text{m} + 423\text{m}$
= $8000\text{m} + 423\text{m}$
= **8,423m**



POINTS TO REMEMBER:-

1. Weight / Mass: - is the measure of how heavy or light an object is. It is not dependent on the size of an object.
2. The units of measuring weight are gram and kilogram.
3. Gram is represented as 'g'.
4. Kilogram is represented as 'Kg'.
5. $1 \text{ Kg} = 1000\text{g}$.
6. $1\text{Kg} = 500\text{g}+500\text{g}$.
7. $1 \text{ Kg} = 250\text{g} +250\text{g} +250\text{g} +250\text{g}$.
8. $1 \text{ Kg} = 200\text{g} + 200\text{g} + 200\text{g} +200\text{g} + 200\text{g}$.

9. $1 \text{ Kg} = 100\text{g} + 100\text{g} .$

10. $\frac{1}{2} \text{ Kg}$ (half of a kilogram) = 500g.

11. $\frac{1}{4} \text{ Kg}$ (quarter of a Kilogram) = 250g.

12. $\frac{3}{4} \text{ Kg}$ (three fourths of a Kilogram) = 750g.