

PHYSICAL QUANTITIES AND MEASUREMENT

SUBJECT-PHYSICS

CHAPTER NO- 2

Measurement of mass

PERIOD-4

CHANGING YOUR TOMORROW

LEARNING OBJECTIVE

Students will be

- familiarized with the concept of mass
- Sensitized about the unit of mass
- able to know how to use multiple and sub multiple units of mass
- able to know the relationship between gram, kilogram and pound
- familiarized with the devices used for measuring mass



WARM UP QUESTIONS

Recapitulation of previous topic by asking certain questions

- What do you mean by error of parallax
- How can you measure length of an object with a meter scale?
- How can you measure length of an object with a measuring tape?

Measurement of mass

The mass of a body is the quantity of matter contained in it.

UNIT OF MASS-

SI unit of mass is kilogram in short form it is written as kg.

Multiple and Sub multiple unit of mass

A bigger unit of mass is **quintal**

1 quintal = 100 kg

A still bigger unit of mass is **metric ton**

1 metric ton = 10 quintal = 1000 kg

The mass of a light body is expressed in a smaller unit of mass called **gram** the short form of it is 'g'

1 gram is the 1000 part of kilogram or 1000 gram make 1 kilo gram that is

1 Kg = 1000 gm or

1 gm = 1 / 1000 kg

A still smaller unit of mass is milligram in short form it is written as 'mg'

1 milligram is the 1000 part of a gram or 1000 milligrams make one gram that is

1 gm = 1000 mg

1 mg = 1 / 1000 g

In F.P.S. system, the unit of mass is pound (*lb*)

- In C.G.S. system, the unit of mass is gram (g)
- **Relationship between gram, kilogram and pound**
- $1 \text{ g} = 1/1000 \text{ kg}$
- $1 \text{ lb} = 453.59 \text{ g}$

Devices for measuring mass

- Explain the use of a beam balance to measure mass of a body by the help of a video
- <https://youtu.be/qnMyHvYRoPM>
- <https://youtu.be/5q9wy7G2v5U>
- <https://youtu.be/nEslpsH87zs>

Standard weights

To measure the mass of an object standard weights are used. Standard weights are of 20 kg, 10 kg ,5 kg ,2 kg and 1kg however smaller weights of 500 gram 200 gram 150 gram 20 gram 10 gram and 5 gram are also available.



Devices for measuring mass

Explain the use of an electronic balance to measure mass of a body by the help of a video

- <https://youtu.be/0UymyTJATLc>

HOME ASSIGNMENT

Exercise- A 1,2

Q. Define mass

Q. Convert 80 gm to kg

Q. explain the relationship between gram, kilogram and pound

Q. Explain the process in which you can measure the mass of a body using beam balance

Q. Describe the parts of electronic balance

Q. What are standard weights? Give some examples

THANKING YOU
ODM EDUCATIONAL GROUP