

# PHYSICAL QUANTITIES AND MEASUREMENT

SUBJECT-PHYSICS  
CHAPTER NO- 2  
**Measurement of mass**  
PERIOD-4

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**CHANGING YOUR TOMORROW**

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## 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 1 kg 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**  
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