

PHYSICAL QUANTITIES AND MEASUREMENT

SUBJECT-PHYSICS

CHAPTER NO- 2

Measurement- It's importance

PERIOD-1

CHANGING YOUR TOMORROW

LEARNING OBJECTIVE

Students will be able to

- Understand the importance of measurement
- Explain the need of measurement
- Relate the types of measurements in our day today life.
- Understand the way in which measurement is expressed



WARM UP ACTIVITY

- Group students into pairs .Have each group discuss the different measurements they encounter on a daily basis, from the distance traveled to school in the morning to the number of windows in their school, ringing of bell after each period.
- Distribute Class Activity Sheet (at the end of this lesson) to each group and have students fill in the measurements in units which they know previously.
- Discuss whether or not students were surprised at how many measurements they use in daily life .

Definition of Measurement

- A measurement is the action of measuring something, or some amount of stuff. So it is important to measure certain things right. Distance, time, and accuracy are all great things to measure. By measuring these things or in other words, by taking these measurements we can better understand the world around us.
- **Measurement is a comparison of an unknown quantity with a known fixed quantity of the same kind.**

Why is measurement important in our lives?

- Time, size, distance, speed, direction, weight, volume, temperature, pressure, force, sound, light, energy—these are among the physical properties for which humans have developed accurate measures, without which we could not live our normal daily lives.
- Types of measurements we encounter in our day today life by showing a video.
- <https://youtu.be/Z0CcUyFzeZ4>

WHAT IS MEASUREMENT?



time

height



temperature



Let's go!



weight



length

© Study.com

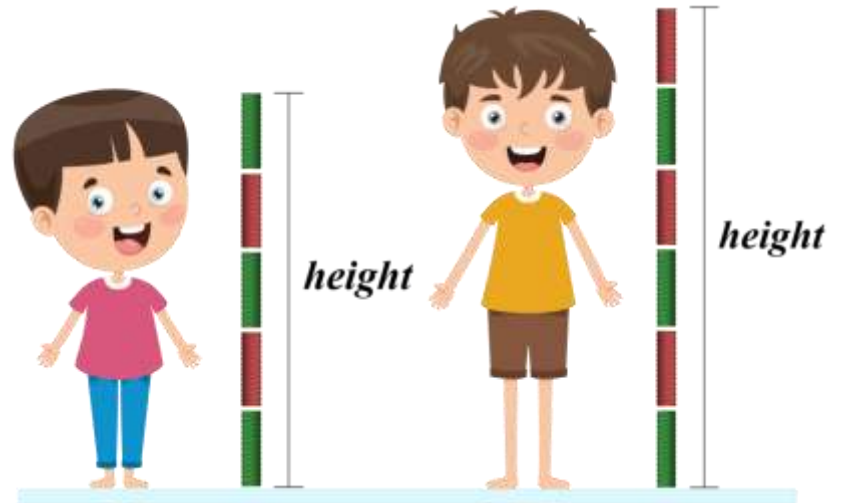
Need for measurement

The purposes of measurement can be categorized as measurement being in the service of quality, monitoring, safety, making something fit (design, assembly), and problem solving.

Measurement of weight, volume, length, and time has now become a part of our daily life.

A measurement needs to things the unit 'u' and the number 'n' which tells us how many times that the unit is contained in that quantity. Thus the measurement is expressed as

$$\text{Measurement} = n \times u = nu$$



Why we need universally accepted unit for measurement?

- A **universal system** reduces the confusion when different **systems of measurement are** used and makes it easy to compare **measurements** taken by different persons.
- <https://study.com/academy/lesson/why-do-scientists-need-a-common-system-of-measurement.html#lesson>

HOME ASSIGNMENT

- Exercise- B 1,3
- Q. What is the need and importance of measurement?
- Q. How a measurement is expressed?

THANKING YOU
ODM EDUCATIONAL GROUP