

CHAPTER TWO: MEASUREMENTS IN PHYSICS

Activity 1: Think through this;

(i) When you go the butchery, you buy meat in kilograms. When you go to the tailor your cloth is cut according to your size. What general term is used to describe the above cases?.....

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(ii) Give examples of everyday life situations where the above process is applied. Explain what is done in each case.

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NOTE:

Measurement is the process of determining the quantity or value of a physical quantity.

A physical quantity is a physical property that can be accurately measured.

Activity 2: With your friends

(i) Identify some things in real life situation that can be measured.

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(ii) For each of the things you have identified in (i) above state what physical property is measured about them.

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Note: In the process of measuring, you assign a numerical value and a unit to a physical quantity.

For example during the quarantine the anti-corona team was to measure 6kg of posho to give to each vulnerable family.

Here the **6** is a numerical value and **Kilogram** is a unit assigned to the quantity of posho being measured.

When assigning units to physical quantities modern scientists use the metric system of units called the International System of Units (SI units).

Therefore when measurement of a physical quantity is taken, the quantity must be presented in terms of a numerical value and unit.

Activity 3:

The table below has some of the physical quantities and their SI units. Complete the table by giving the symbol (abbreviation) of each SI unit and giving the appropriate instrument for measuring the given physical quantities.

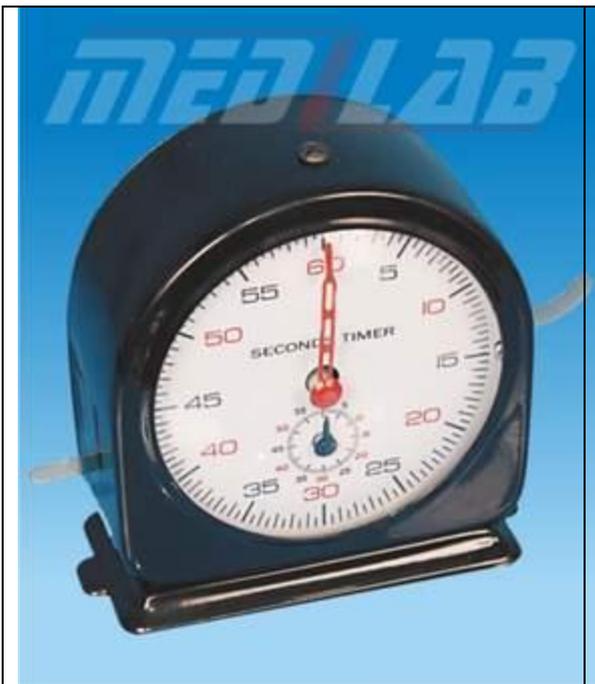
Table 3.1 physical quantity, units and measuring instruments

| Physical quantity | SI unit | Abbreviation | Instrument |
|-------------------|--------------------------|--------------|------------|
| Mass | Kilogram | | |
| Length | Metre | | |
| Time | Second | | |
| Temperature | Kelvin | | |
| Area | Square metre | | |
| Weight | Newton | | |
| Volume | Cubic metre | | |
| density | Kilogram per metre cubed | | |

Activity 4:

Some measuring instruments have been shown in the figure below. Look at them carefully and identify them and give the physical quantity (quantities) which they measure.

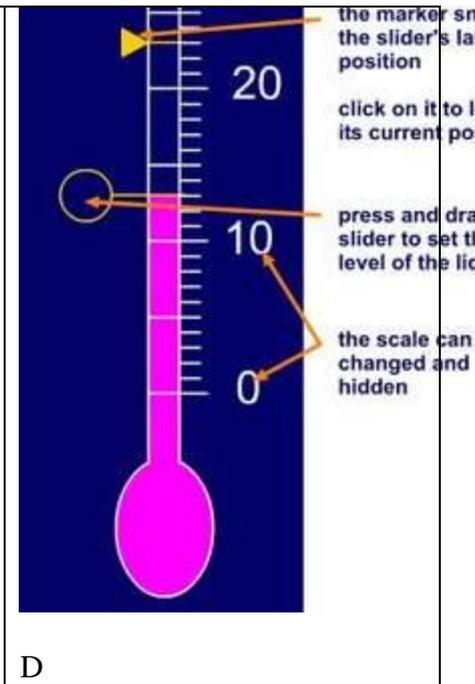
table 4.1: Instruments used to measure p physical quantities



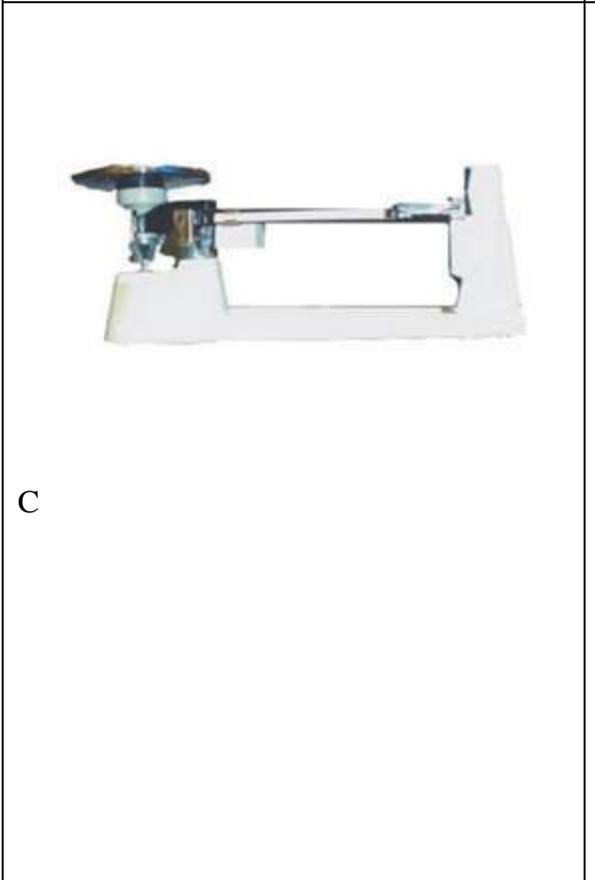
A



B



D



C



E



F