

## Chapter- 9

# Measurement

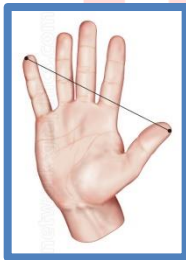
### STUDY NOTES

#### LET'S LEARN

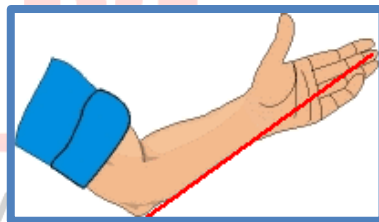
About measuring length, weight and capacity.

#### MEASUREMENT OF LENGTH

- In the past people used to measure the length with their hands and feet.
- The units used for this called as the hand span, the cubit and the foot span which are also known as non- standard units.



HANDSPAN

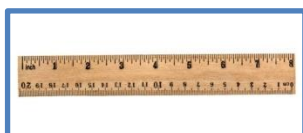


CUBIT



FOOTSPAN

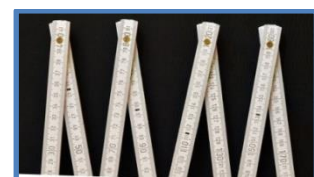
- We need standard units for measuring length.
- The standard unit of length is the metre.
- Short lengths are measured in centimetres. Longer lengths are measured in metres(m). Rulers, metre rods and measuring tapes are commonly used for measuring length.



RULER



MEASURING TAPE



METRE ROD

#### MEASUREMENT OF WEIGHT

- The vegetable vendors and sweet shops use the common balance as well as electronic balance for measuring the objects.

- The most commonly used units for measuring weights are grams and kilograms.
- Light objects are measured in grams and heavy objects are measured in kilograms.
- The common balance and weights and the electronic balance are the instruments mostly used for weighing.



COMMON BALANCE



COMMON BALANCE



ELECTRONIC BALANCE

### MEASUREMENT OF CAPACITY

- Capacity is the quantity of a liquid which a vessel can hold. The commonly used units for measuring capacities are millilitres and litres.
- Small amounts of liquids are measured in millilitres (ml) and the large amounts in litres (l).
- The instruments used for measuring the capacity are measuring cylinders and measuring cans.



MEASURING CANS



MEASURING CYLINDERS

### MEASUREMENT OF TIME

- The watch or clock helps to measure time in hours, minutes and seconds.
- **60 seconds** make 1 minute and **60 minutes** make 1 hour.



**CLOCK**



**ALARM CLOCK**

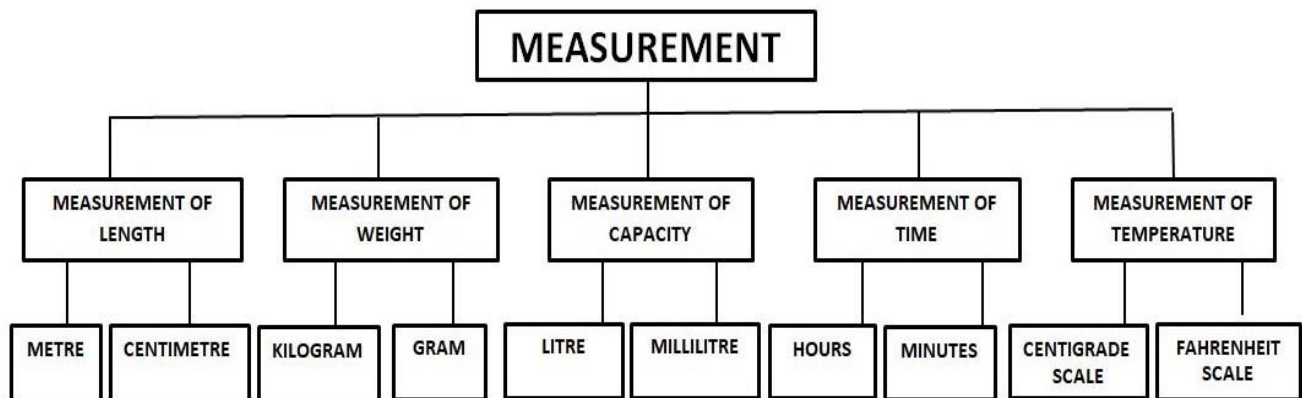
**MEASUREMENT OF TEMPERATURE**

- The body temperature is measured by thermometer.
- The thermometer helps us to measure temperature.
- Temperature is measured either on the Centigrade scale or on Fahrenheit Scale. In India we use the Centigrade Scale.



**DIGITAL THERMOMETER**

**MEMORY MAP**



**Teacher's note**

- Make a physical balance by using strings, a metre scale and paper plates to make a physical balance. Use 5-rupee coin to weigh different objects. How much is the weight of your pencil-box, a doll and your school diary?

**Imrove your G.K.**

- A unit used to measure money is called a unit of account.
- Height can be defined as the distance between the lowest and highest points of a person or an object.
- SI is the system of measurement units in use by scientists all over the world.
- A unit of current is Ampere.

**Let's know more****I. Multiple choice questions.**

- The weight of your science book is measured in \_\_\_\_\_.  
a. grams                      b. litres                      c. celsius degrees                      d. seconds
- To measure the weight of kerosene which of the following unit is used?  
a. kilogram                      b. litres                      c. Celsius                      d. hour
- A tailor uses \_\_\_\_\_ to measure the clothes.  
a. measuring tape                      b. measuring cylinder                      c. clinical thermometre                      d. weighing machine
- Reena wants to measure the length of a pen. What can be the possible unit of her measurement?  
a. kilometre                      b. centimetre                      c. hand span                      d. kilogram
- Which of these statements tells us about the temperature?  
a. how cool the city is                      b. how long a road is                      c. how heavy a bag is                      d. how small a pen is

**Let us answer****A. Tick ( ✓ ) the correct answer.**

- Rulers, meter rods and measuring tapes are commonly used for measuring.  
a. capacity                      b. weight                      c. length
- The commonly used units for measuring weight are  
a. gram and kilogram                      b. meter and centimeter                      c, milliliter and liter

3. Which one is wrong ?

- a. 60 seconds = 1 minute      b. 60 minute = 1 hour      c. 60 hours = 1 minute .

4. A thermometer is used to measure.

- a. pressure      b. capacity      c. temperature

**B. Fill in the blanks.**

1. The standard unit of length is \_\_\_\_\_.

2. Light weights are measured in \_\_\_\_\_.

3. The symbol for litre is \_\_\_\_\_.

4. An electronic balance is used to measure \_\_\_\_\_.

**C. Answer these questions.**

1. Name three body parts that were used by people long ago to measure length.

2. Name the two instruments used to measure weight.

3. What is capacity ?

4. Which instruments are used for measuring capacity?

5. Name two scales used for measuring temperature.

**Answer key**

1.1.a. grams

2.b. litres

3.a. measuring tape

4.b. centimeter

5.a. how cool the city is

**A.** 1-C 2-A 3-C 4-C

**B..1.** metre

2. gram.

3. l

4. weight.

- C. 1. Ans: Three body parts that were used by people long ago to measure length are hands for handspan, forearm for cubit and foot for footspan.
2. Ans: The two instruments used to measure weight are common balance and digital balance.
3. Ans: The capacity means quantity of a liquid which a vessel can hold.
4. Ans: Measuring cans and measuring cylinders are used for measuring the capacity.
5. Ans: The name of two scales - Centigrade scale and Fahrenheit Scale.

