STEPPING STONE SCHOOL (HIGH)

**CLASS: 6**

**Subject: Physics** **Topic: Answer-Script**

## *Answer to Worksheet No. :1 to 6*

### *Worksheet No – 1* (Date-27/04/2020)

**A. Fill in the blanks.**

i. The systematic study of the natural world through observations and _experiments is known as science
.

ii. The branch of science deal with study of plants is known as Botany.

iii. The study of sound is known as Acoustics.

iv. The branch of physics that deals with the study of electricity and magnetism is known as Electromagnetism.

**Answers**

1. The systematic study of the natural world through observation and experiments is known as Science.
2. The systematic way to ask questions and find their answer through observations and experiments is known as the scientific method.
3. The steps that are followed in the scientific method are as follows:-

i. Identifying the problem
ii. Doing background research ( read, get advice)
iii. Developing a hypothesis (Make an assumption or prediction for possible answer)
iv. Experimentation and verification ( test assumption and record the data )
v. Organizing data
vi. Drawing conclusion ( Analyse data )
vii. Application ( Making use of the knowledge

4. We are able to get live communication by using satellites which is major contribution of physics. Internet, mobile phones, radio, television and computer have completely change the way we live our lives and enable us to communicate with other easily.

### *Worksheet No – 2* (Date-29/04/2020)

I. The SI unit of mass is kilogram(kg)
II. The SI unit of length is meter.

III. The SI unit of amount of substance is mole
IV. Candela is SI unit used to measure intensity of light.
V. The SI unit of temperature is Kelvin.
VI. The SI unit of electric current is ampere.
VII. The SI unit of time is second.
VIII. A physical quantity is usually expressed as a magnitude and a physical unit.
IX. Density is derived physical quantity.
X. Time is fundamental physical quantity.

**Answers**

1 Any quantity that can be measured is called a physical quantity.
2 Fundamental physical quantities: basic physical quantities that do not depend upon other quantities. There are seven fundamental physical quantities. They are *length, mass, time, temperature, electric current, luminous intensity and amount of substance.*
Derived physical quantities: physical quantities that are derived from one or more fundamental physical quantities are called derived physical quantities. E.g. Area, density, etc.
3 Length of notebook can be easily measured with the help of CGS unit of length i.e centimetre because it is easy and convenient for measurement of smaller length.

## *Worksheet No – 3* (Date-01/05/2020)

| | Column A | Column B |
|---|---|---|
| (i) | Length | Kilogram (iv) |
| (ii) | Temperature | Ampere (iii) |
| (iii) | Electric Current | meter (i) |
| (iv) | Mass | seconds (v) |
| (v) | Time | kelvin (ii) |

**Q2. Fill in the blanks.**

(i) In the CGS system, length is measured in centimetres.
(ii) In the F.P.S system, mass is measured in pound.
(iii) In the F.P.S, C.G.S & MKS System time has same unit of measurement.
(iv) In M.K.S system mass is measured in kilogram.
(v) In the FPS system, length is measured in foot.
(vi) In C.G.S system mass is measured in grams.
(vii) In the MKS system, length is measured in metre.
(viii) SI System is modified form of MKS.
(ix) There are seven fundamental physical quantities.
(x) In SI system electric current is measured in ampere.

**Q3. True or False**

i. There are seven fundamental units in the SI system. True

ii. Second is considered as the fundamental unit of **time** in FPS, CGS and MKS system. False

iii. In MKS meter is used to measure **length** of an object. False

iv. Pound is used to measure length in FPS system .True

v. MKS system is modified form of SI system of units. True

## *Worksheet No – 4* (Date-11/05/2020)

(i) 1 metre = 100 centimetre.

(ii) The freezing point of water is $0^0$ C.

(iii) 1000 kilograms = 1 tonne.

(iv) Normal body temperature is around $36.6^0$ C.

(v) 1 year = 52 weeks.

(vi) 1 leap year = 366 days.

(vii) 1 litre = 100 centilitres.

(viii) The boiling point of water is $100^0$ C.

(ix) 1 year = 31449600 seconds.

(x) In matric system temperature is expressed in degrees Celsius.

(xi) Surface temperature of the sun is $2800^0$C .

(xii) 1 kilometre = 100000 centimetre.

(xiii) 1 hour = 3600 seconds.

## *Worksheet No – 5* (Date-18/05/2020)

**Fill in the blank:-**

i. To measure the area of irregular shaped body, we use formulae.

ii. To measure the area of regular shaped body we use *a graph sheet* .

iii. Product of length and breadth gives us area of rectangle.

iv. Area of circle π x radius x radius.

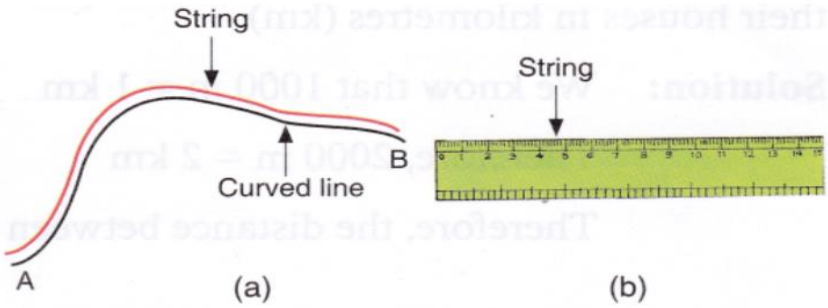
v. Area of a square side x side.

**Answers**

1 Method which we can follow to measure length of a curved line is.

- *Take a non-stretchable string or a thread and tie a knot at one of its ends.*
- *Place the knotted end of the thread at one end of the curved line.*
- *Holding the thread steadily with your fingers, stretch it along the curved line until you reach the other end.*
- *Now make a mark on the thread where it reaches the other end.*

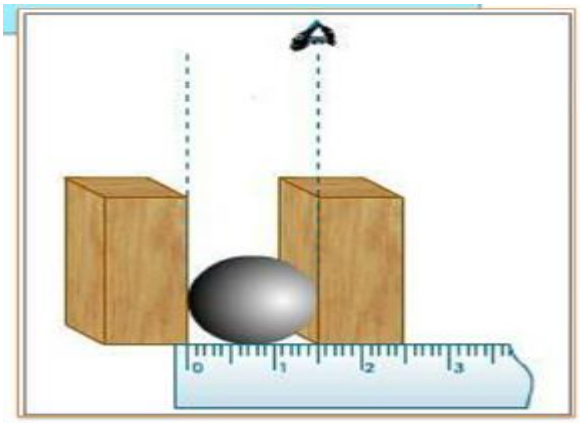
- ***Finally, place the thread along with a metre scale and measure the length between the knot and the marked point. This gives the length of the curved line.***



Measuring the length of a curved line

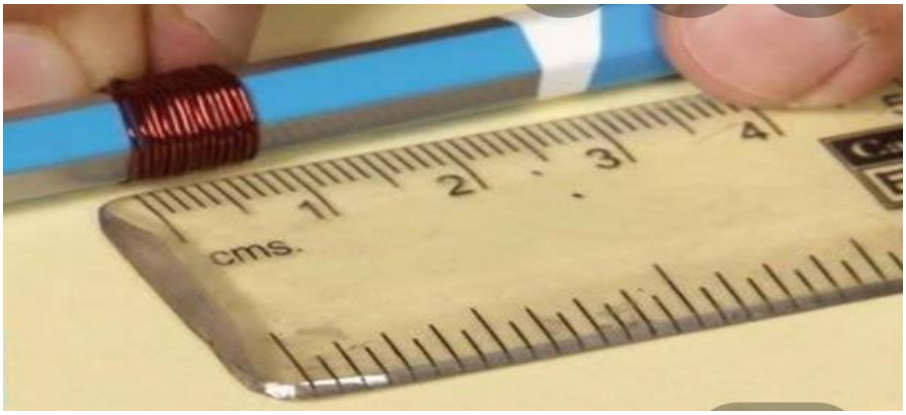
**2 Diameter of sphere can be determined by the following method-**

- ***Place the sphere whose diameter is to be measured on a table, between two rectangular blocks of wood. Adjust the lower edges of the blocks along a ruler.***
- ***Take readings for each face of the block touching the spherical object.***
- ***The difference between the two readings gives the diameter of the sphere.***

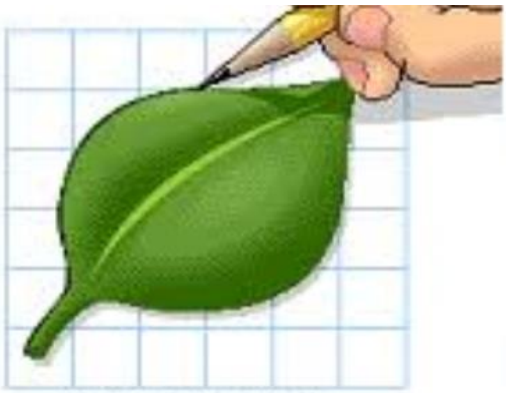


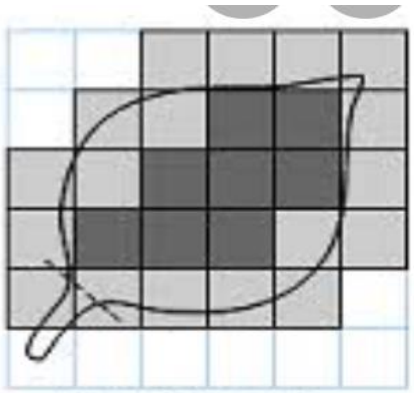
**3*. Length of a wire can be measured by the following method-***

- ***To find the diameter of a wire, wind the wire over a pencil tightly in the form of a coil, without overlapping, such that there are 50 turns in the coil.***
- ***Measure the length of the coil using a ruler and divide it by the number of turns in the coil. This gives the diameter of the wire.***




5. **We can find the area of an irregular flat surface, for a leaf by using a graph sheet. For doing this, the leaf is placed on a centimetre graph sheet and its outline is drawn. Then the numbers of complete and incomplete squares are counted separately. Assuming the area of an incomplete square to be equal to half the area of a complete square, the approximate area of the leaf is the sum of the number of complete squares and half of the number of incomplete squares. Which gives area of leaf is in $cm^2$.**




# Worksheet No – 6 (Date-20/05/2020)

**(i) Volume of a cuboid Length x Breadth x Height**

**(ii) Volume of a cube $length^3$**

**(iii) 1 litre = 1000 $cm^3$.**

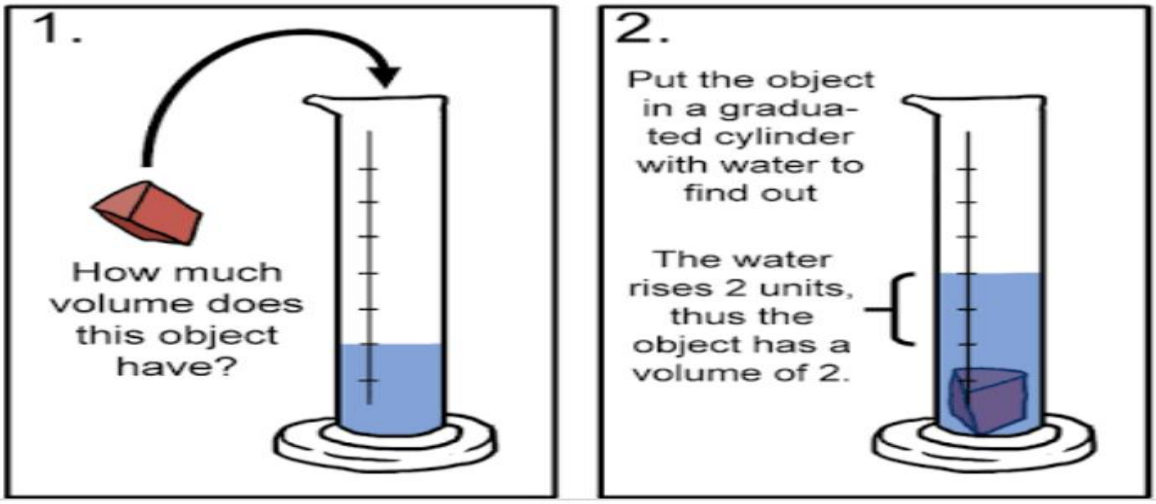
**(iv) The capacity of a container is known its Volume.**

**(v) Volume of irregular solid is measured by Displacement Method.**

**Answers**

1. **We measure the volume of a regular solid by measuring their linear dimensions like length, breadth, and height after that calculate the volume by using appropriate formulae.**
2. **Volume of Irregular Solids can be measured by using Measuring Cylinder using Displacement Method in the following way-**

- **Pour water into a measuring cylinder and keep it on a table.**
- **Note the reading of the water level.**
- **Tie a string to the irregular solid, say a stone, and lower it slowly into the cylinder till it is completely immersed in water.**
- **Note the new water level. The difference between the two readings of the water level gives the volume of the water displaced by the stone. This gives the volume of the stone.**




3. **To measure the volume of a liquid, it is poured into a graduated measuring cylinder and the volume of the liquid is read from the level of the liquid in the cylinder.**