



STEPPING STONE
SCHOOL (HIGH)
CLASS: 6

Subject: Physics

Date:

18/05/2020

Topic: Measurements

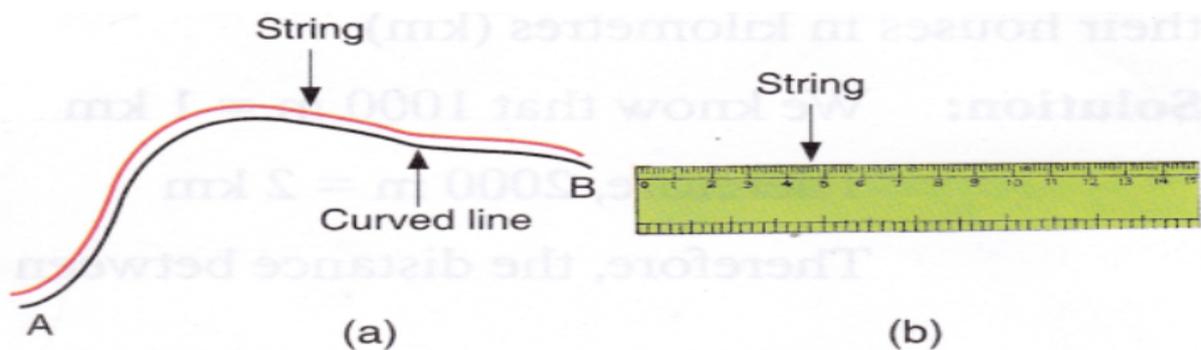
Time Limit: 45 min.

Worksheet No.:5

*[Copy the questions following the notes and solve them on a sheet of paper date wise.
Keep the worksheets ready in a file to be submitted on the opening day.]*

Measurement of Length of a Curved Line

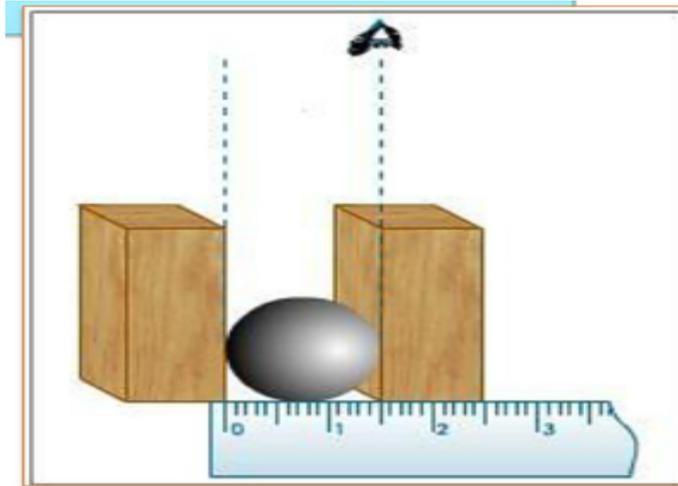
- *Take a non-stretchable string or a thread and tie a knot at one of its ends.*
- *Place the knotted end of the thread at one end of the curved line.*
- *Holding the thread steadily with your fingers, stretch it along the curved line until you reach the other end.*
- *Now make a mark on the thread where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

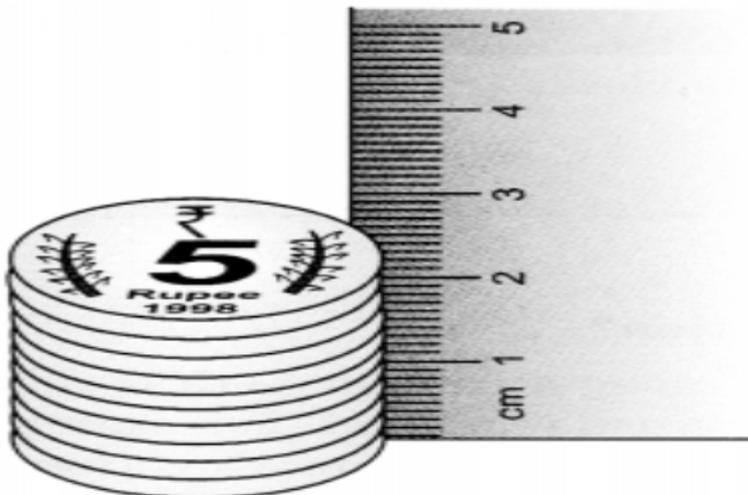
Measurement of Diameter of a Sphere

- 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.



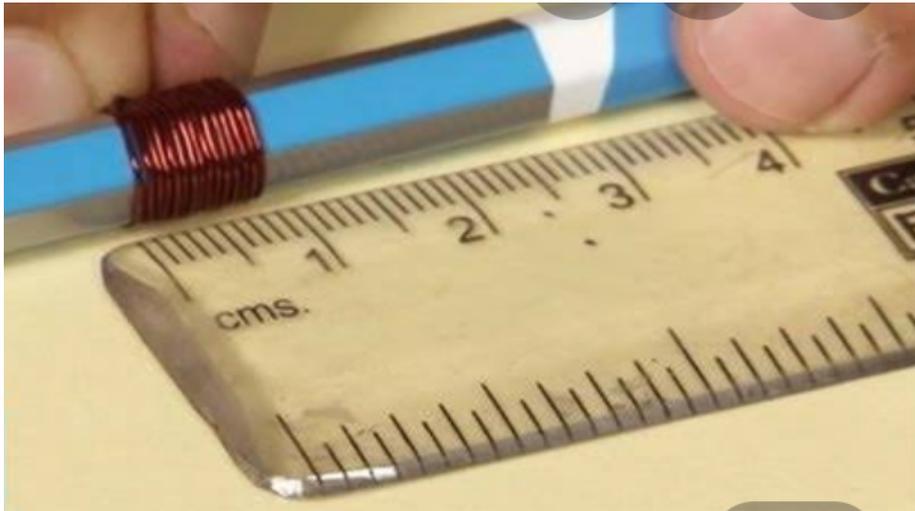
Measurement of Thickness of a Coin

- To find the thickness of a coin, arrange 20 such coins one above the other and measure the height of the pile of coins using a ruler.
- Divide this height by 20. This will give you the thickness of a single coin.



Measurement of Diameter of a Wire

- 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.



Measurement of Area of a Regular Surface

We can find the area of regular surfaces by measuring their linear dimensions like length, breadth, etc. and calculating the area using appropriate formulae. The formulae used to find the area of some regular shapes are given below:

- Area of a square = side x side
- Area of a rectangle = length x breadth
- Area of a triangle = $\frac{1}{2}$ x base x height
- Area of a circle = π x radius x radius [$\pi = 3.14$]

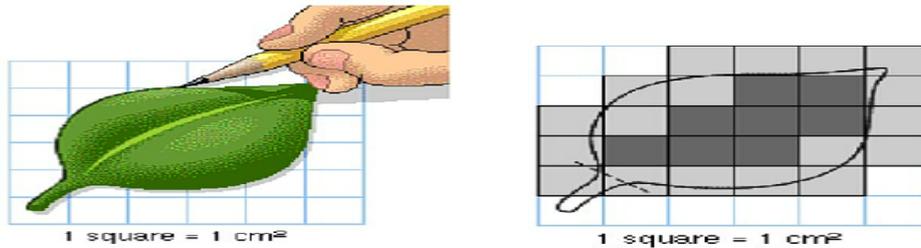
Measurement of Area of an Irregular Flat Surface

- We can find the area of an irregular flat surface, for example, a leaf, 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. This area is in cm

2

How to Calculate Leaf Surface Area



- Lay the leaves to be measured on a 1-cm grid and trace their outlines.
- Count the number of square centimeters. Estimate the area of the partial squares.
(Here's a simple method for this estimate: Count a partial square if it is at least half covered by the leaf; do not count partial squares that are less than half covered.)
- Do not include the area of the stem (petiole) in your calculations.

Fill in the blanks

- To measure the area of irregular shaped body, we use a _____.
- To measure the area of regular shaped body we use a _____.
- Product of _____ and _____ gives us area of rectangle.
- Area of circle _____.
- Area of a square _____.

Answer the following Questions

- Describe the method by which you can measure length of a curved line.
- Describe the method to determine diameter of a sphere.
- Describe the method by which you can measure diameter of a wire.
- Describe the method by which measure area of irregular surface of leaf.

[Click here for you tube video on measuring area of leaf](#)