

ACTIVITY-7

BASIC GEOMETRICAL IDEAS

MAKING OF A PROTRACTOR

1. **What we have to do?**

To design a Protractor by paper folding.

2. **What is required?**

Thick paper, a pair of scissors, adhesive and geometry box.

3. **How much time required for this activity?**

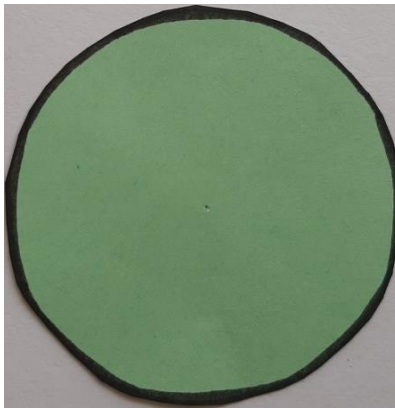
30-40 minutes.

4. **What do you need to know?**

Knowledge of Circle and Angles.

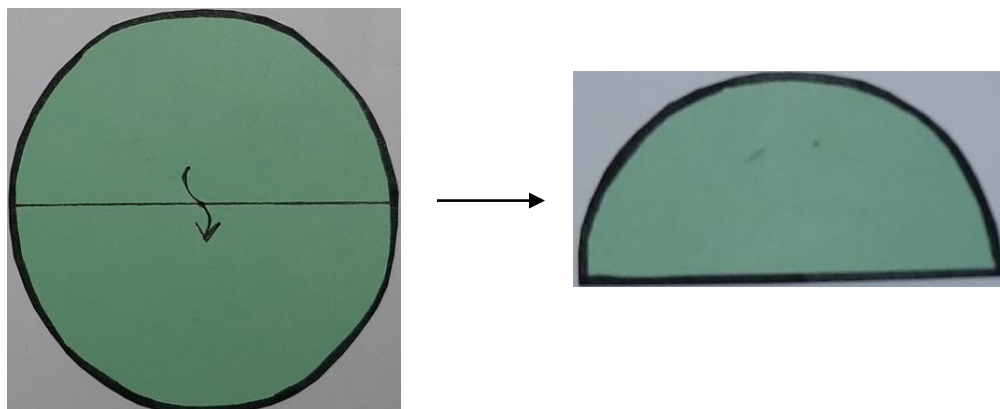
5. **How will you proceed?**

a. Draw a circle of any convenient radius on a thick paper. Cut out it as shown on Fig.1.

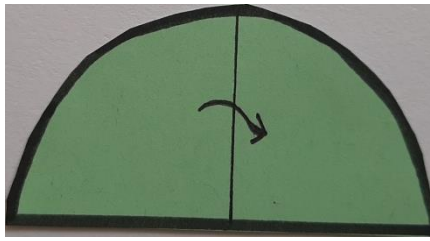


(Fig.1)

b. Now, fold the circle to get two equal halves and cut it through the crease to get a semicircle.

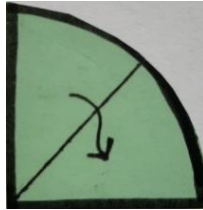


- c. Fold the semi circular sheet as shown in Fig.2.



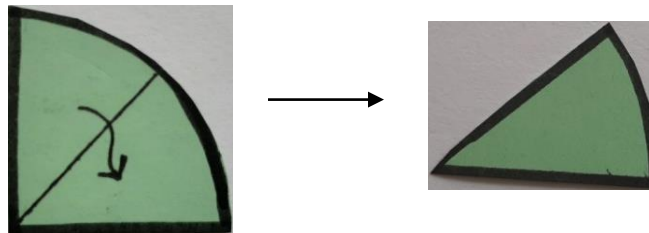
(Fig.2)

- d. Again, fold the sheet as shown in Fig.3.



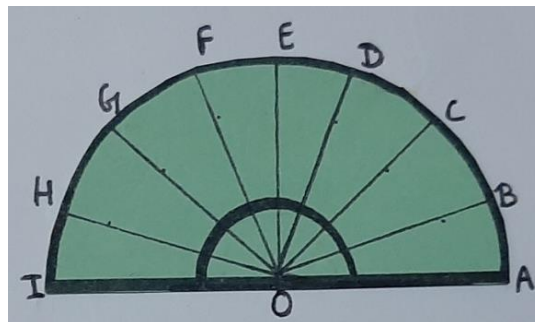
(Fig.3)

- e. Fold it once again as shown in Fig.4.



(Fig.4)

- f. Unfold and mark the creases as OB, OC, OD,.....etc. as shown in Fig.5.



(Fig.5)

- g. Place the Protractor on semi circle and mark the angles corresponding to each crease.

6. What have you observed?

- What is the measure of $\angle AOI$?
- Is $\angle AOB$ is equal to $\angle BOC$?
- Is $\angle IOG$ is half of $\angle IOE$?

7. What have you learnt?

8. What you have to do as extended activity?

- Write the measure of the following angles obtained in Fig.5 using Protractor:
 - (i) $\angle AOB$
 - (ii) $\angle AOC$
 - (iii) $\angle AOD$
 - (iv) $\angle AOE$
 - (v) $\angle AOF$
 - (vi) $\angle AOG$
 - (vi) $\angle AOH$
 - (vii) $\angle AOI$

9. Real Life Application:

Protractor can be used to measure and draw an angle with an accuracy of about 1° . It can also be used for a variety of mechanical and engineering-related applications.