

ACTIVITY -13

TOPIC: PERIMETER AND AREA

AREA OF THE CIRCLE

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

To compute the area of a circle by paper cutting and pasting.

2. **What is required?**

White sheet of paper, sketch pens, a pair of scissors, geometry box and adhesive.

3. **How much time is required?**

30 - 40 minutes

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

Knowledge about circumference of a circle and area of a rectangle.

5. **How will you proceed?**

- a. Draw a circle of radius ' r ' units on a sheet as shown in Fig.1



Fig.1

- b. Fold the circle into two congruent parts along any diameter and press to form a crease. Unfold the circle and shade any one of the semicircles with blue colour.
- c. Now, divide this circle into 16 equal parts by folding it 4 times.
- d. Unfold the circle and cut all the sixteen parts of it.
- e. Now, arrange and paste them neatly as shown in Fig.2.



Fig.2

Note: The more the number of parts we divide the circle, the shape will come closer to the rectangle.

6. **What have you observed?**

Radius of the circle	_____
Circumference of the circle	_____
Length of the rectangle in Fig.2	_____
Breadth of the rectangle in Fig.2	_____
Area of the rectangle in Fig.2	_____
Area of the circle	_____

7. **What have you learnt?**

8. **Extended Activity:**

Draw a circle of radius 3.5 cm. Find its area by directly applying the formula. And, also find its area by the process of dividing the circle into 16 equal parts as shown above in the activity.

Real life Applications:

The above concept is used in our day-to-day life incidents viz. camera lenses, wheels, cakes, pies, rings, buttons, construction etc....

