

Session 30: Area - square, rectangle

Session Title	Area - square, rectangle
Objective	<ol style="list-style-type: none">1. By the end of the lesson, students will be able to:2. Define what "area" means.3. Identify the formulas for the area of a square and a rectangle.4. Calculate the area of squares and rectangles using formulas.5. Solve real-world problems involving area.
Concept	<ol style="list-style-type: none">1. Chart with formulas:2. Rectangle: Area = length \times width3. Square: Area = side \times side
Materials required	<ol style="list-style-type: none">1. Whiteboard and markers2. Grid paper3. Ruler4. Scissors (optional)5. Colored pencils6. Area formula chart7. Practice worksheets
Methodology	Learning by measuring real objects and their area through group activity and guided practice.
Session plan	90 minutes

Introduction activity(20 minutes)

1. Quick Review of Perimeter

Write on the board:

Perimeter = the total distance around the outside of a shape.

Say:

“If I walk all the way around the edge of a soccer field, what am I measuring?”

Let students respond:

“The perimeter!”

Next example:

“Imagine you’re putting a fence around your garden. You need to know how much fencing to buy. That’s the perimeter—the total length around it.”

Draw a rectangle on the board to represent a garden

Label: Length = 6 meters, Width = 4 meters

Ask:

“How much fencing would I need to go all the way around?”

Guide them: $6 + 4 + 6 + 4 = 20$ meters

2. Transition to Area

Ask:

“What do we mean when we talk about the area of a shape?”

(Wait for responses. Guide as needed.)

Then explain:

“Area is the amount of surface inside the shape. It tells us how much space we’re covering.”

Real-life example:

“If I want to put carpet on the floor of a room, I’m not just measuring around it—I need to know how much space the carpet needs to cover. That’s the area.”

Use the same rectangle drawing:

Say:

“This could be the shape of a room. If I wanted to put tiles or carpet in here, I’d need to know how much flooring material to buy. That’s the area!”

- Engage: Ask students, “How can we measure how much space a shape takes up on a surface?”
- Introduce the word "Area" and explain that it is the amount of space inside a shape.
- Show a square and a rectangle on the board and ask students how they are different and similar.

Define:

- Square: A shape with 4 equal sides and 4 right angles.
- Rectangle: A shape with opposite sides equal and 4 right angles.
- Rectangle: Area = length \times width
- Square: Area = side \times side

Main Activity (65 minutes)

Word Problems: Area of Squares and Rectangles (20 minutes)

1. Rectangle - Carpet a Room:

You are carpeting a rectangular bedroom that is 5 meters long and 4 meters wide. How much carpet do you need to cover the floor?

Shape: Rectangle

Formula: Area = length \times width

Solution: $5 \times 4 = 20$ square meters

2. Rectangle - Tiling a Kitchen:

A rectangular kitchen floor is 6 meters long and 3 meters wide. How many square meters of tiles will cover the floor completely?

Shape: Rectangle

Formula: Area = length \times width

Solution: $6 \times 3 = 18$ square meters

3. Square - Small Rug:

You are placing a square rug in your reading corner. Each side of the rug is 2 meters long. What is the area of the rug?

Shape: Square

Formula: Area = side \times side

Solution: $2 \times 2 = 4$ square meters

4. Square - Garden Plot:

A square garden has sides that are 7 meters long. How much area will you cover if you plant flowers in the whole space?

Shape: Square

Formula: Area = side \times side

Solution: $7 \times 7 = 49$ square meters

Team-Based Area Drawing Game (25 minutes)

Objective:

Each team will draw a layout of a real-life space (garden, bedroom, or classroom) using only squares and rectangles, then calculate the area of each object they include.

Step-by-Step Instructions:

1. Divide the Class:

Team 1: Garden Designers

Team 2: Bedroom Planners

Team 3: Classroom Arrangers

Team Tasks: Each team must:

- Design a top-down view of their space
- Include at least 5 real items (all squares or rectangles)
- Label each item with length, width, and area
- Add a title and decorate the drawing

Team Topics and Ideas:

Team 1 - Garden

- Vegetable bed (2m × 1.5m)
- Flower patch (1m × 1m)
- Pathway (0.5m × 4m)
- Grass area (3m × 2m)
- Bench (1.2m × 0.5m)

Team 2 - Bedroom

- Bed (2m × 1.5m)
- Rug (1.5m × 1m)
- Desk (1m × 0.5m)
- Bookshelf (1.2m × 0.6m)
- Window (1m × 1m)

Team 3 - Classroom

- Teacher's desk (1.5m × 0.8m)

- Student desk (1m × 0.5m)
- Whiteboard (2m × 1m)
- Bookshelf (1m × 0.5m)
- Carpet area (2m × 3m)

Wrap-Up:

- Have each team present their layout, explain their measurements, and compare total areas. You can even give awards for:
 - Most creative layout
 - Most accurate math
 - Best teamwork

Review Questions(5 minutes)

- How are the formulas for squares and rectangles similar or different?
- Can you explain what 'area' means in your own words

Follow Up Task(20 minutes)

Activity: Measuring Areas in the Classroom

Instructions:

- Form small groups (2-3 students each).
- Assign or let students choose 3-5 objects in the classroom that are square or rectangular in shape.

Examples of objects:

- Book cover
- Student desk
- Window
- Student desk
- Whiteboard
- Door

3. Measure:

Measure the length and breadth (for rectangles) or the side (for squares) of each object using a ruler or tape measure.

Record the measurements.

4. Calculate:

Use the correct formula:

Square: $\text{Area} = \text{Side} \times \text{Side}$

Rectangle: $\text{Area} = \text{Length} \times \text{Breadth}$

Work out the area for each item.

5. Record Findings:

Fill a table like this:

6. Discuss:

Which object had the largest area?

Which object had the smallest area?

Why is measuring area important in real life?

Expected learning outcome

Knowledge building

- Understand the meaning of area.
- Measure length and breadth accurately.
- Apply formulas for the area of a square and a rectangle.

Skill building

- Calculate the area of classroom objects.

- Compare the areas of different objects.
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Revision #3

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