

Area 1.1 lesson plan

Identification of the attribute: make direct comparisons of area

Closed and open

Given lengths of string or ribbon, students make lines and then shapes with the material and then draw these. Students indicate the area of the shape. Whole class join several lengths to make a large area. Students measure the area, in bodies, by lying down within the shape.

Students should:

1. use area vocabulary: *surface, inside, outside, shape, area, boundary, large area, small area*
2. make closed shapes; indicate the space enclosed by the boundary
4. indicate the surface they are referring to.

Grouping

- Step 1: whole class, then groups of 2 or 3
- Step 2: whole class, then groups of 2 or 3
- Step 3: whole class.

Outcomes

MES1.2 Describes area using everyday language and compares areas using direct comparison.

WMES1.2 Uses objects, imagery, actions, technology and/or trial and error to explore mathematical problems.

Materials:

lengths of string, ribbon or tape for each group of three students, pencil and recording paper



Activity

Step 1

- Introduce or revise the term *area*.
- In groups of three, students take a length of string or ribbon and experiment with lines on the floor or desks. Students record the different lines made. Lines may be straight, curved or zigzag.
- Report back for a whole class discussion, describing the lines.

Step 2

- Discuss how to make shapes with the length of material. Demonstrate the area of the shape enclosed by the length of material.
- Return to groups. Make a shape with the material. Students draw shapes and label if possible. Talk about the shapes and how they were made.

Step 3

- Whole class sit in a circle, several students make a shape from five or six joined braids on the floor in the middle of the circle.
- Students estimate how many children would be needed to cover the area of the shape by lying on the floor.
- Students direct volunteers to lie in the shape. Count the bodies.

Alternatives:

Use computer software to draw closed and open shapes, and fill the shapes with colour.

Make small open and closed shapes with pipe cleaners.

Questioning

“What is area?” Ask for explanations, give definition as the amount of surface.

Tell me about the lines which you are making. What does this line look like?

Check that students:

- can make shapes with their string
- know how to tie the ends of the string
- can indicate the area of the shape.

Discussion

What kind of shape have we got?

What could we cover the area of the shape with?

Can you estimate how many children we would need to cover this area if they were lying down?

Can they fit better if we put them another way?

How many children did we need to cover the area?

Are there any little spaces, not covered by bodies?

