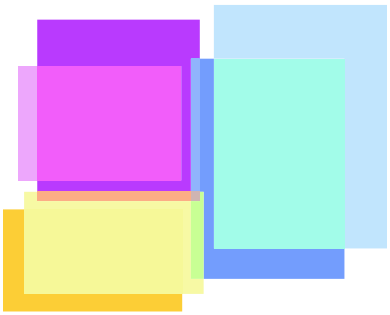
Algebra/Geometry Institute Summer 2009

Perimeter & Area of Rectangles



Faculty Name: Sara Johnson

School: Batesville Junior High

Grade Level: 6th

1 Teaching objective(s)

- The students will use formulas to find the perimeter and area of rectangles.

Institute Framework

- 4d: Solve geometric problems using formulas.

2 Instructional Activities

Introduction

1. Review the different polygons with students. Ex: rectangle, triangle, pentagon, hexagon, etc.
2. Review the number of sides each polygon has: rectangle- 4, triangle- 3, pentagon- 4, etc.
3. Tell students that today we are going to find the perimeter and area of rectangles.
4. Explain that at the end of the lesson, they will be able to use the formulas to find the perimeter and area of rectangles.

Lesson

1. Explain to students that perimeter is the distance around an object.
2. Show the example of a square on the overhead. (Attachment 1)
3. Ask students: “What the length is of each side?”
4. Ask students: “What is the distance all the way around the square?”
5. Explain that they have just found the perimeter.
6. Tell students that the area is the space that is inside the figure.
7. Give students a copy of the square and a bag of square tiles.
8. Tell the students to see how many square tiles it takes to cover the inside of this square.
9. Ask students : “How many tiles does it take?”

10. Explain to students that one square tile is equal to one square unit.
11. Ask students: "What is the relationship between the distance around the square and the area inside of the square?"
12. Tell students that the formula for finding the perimeter of a rectangle is 2(l+ w), or you can add the length of each side.
13. Tell students that the area is A= l x w.
14. Explain that l stands for length and w stands for width.

Activity 1

1. Give each student a piece of graph paper and a ruler.
2. Tell students to draw 3 different rectangles on the graph paper.
3. Have students cut out each rectangle and put his/her initials on the back.
4. Tell students to number the rectangles 1-3 on the inside of each figure.
5. Tell students to make an answer key finding the area and perimeter of each of the three figures.
6. Tell students to give each person at their table one of the rectangles.
7. Explain that each person at every table should have three rectangles.
8. Tell students to find the perimeter and area of the three figures using the formulas.
9. Explain that students need to put the problem number and the initials of the person who created the rectangle beside each answer.
10. Walk around the room to make sure that all students are on task and that the problems are correct.
11. When students have finished, tell them to check with the others at their table and make sure that they have the correct answers.

Activity 2

1. Tell students they will now work several problems involving perimeter and area.
2. Give each student a worksheet. (Attachment 2)
3. Allow time to complete the worksheet.
4. When all students have finished, have students come to the board and work out the problems.

3 Materials and Resources

A. Materials

1. Overhead projector
2. Square Transparency
3. Worksheets
4. Pencils
5. Rulers
6. Scissors
7. Square Tiles

B. Resources

1. www.mathforum.com
2. Teacher created worksheets

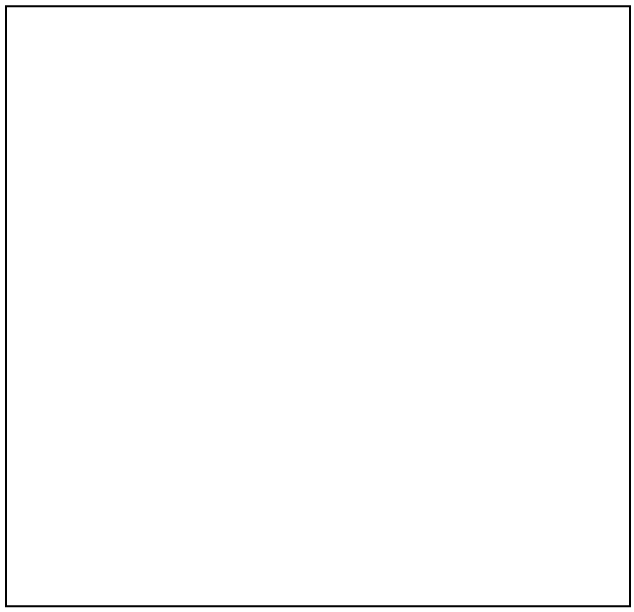
4 Assessment

For the assessment, students will complete a worksheet involving perimeter and area.

1. Verbal and written responses
2. Worksheet completion
3. Teacher observation

Attachment 1

4 inches



Attachment 2

NAME _____

Directions: Use the formulas to find the perimeter and area of each rectangle. Sketch a picture of each rectangle.

1. length = 3cm
   width = 5 cm

   perimeter = _____

   area = _____

2. length = 10 in
   width = 4 in

   perimeter = _____

   area= _____

3. length = 4cm
   Width = 2 cm

   Perimeter= _____

   Area= _____

4. length = 12 ft
   width = 3 ft

   perimeter= _____

   area= _____

Attachment 3

NAME __Answer Key_____

Directions: Use the formulas to find the perimeter and area of each rectangle. Sketch a picture of each rectangle.

2. length = 3cm
width = 5 cm

perimeter = _16 cm_____

area = _15 square cm_

2. length = 10 in
width = 4 in

perimeter = __28 in___

area= _40 square in___

3. length = 4cm
Width = 2 cm

Perimeter= _12 cm__

Area= __8 square cm

4. length = 12 ft
width = 3 ft

perimeter= _30 ft___

area= ___36 square ft___