GEOMETRY

AREA AND PERIMETER

Cut out the shapes on the Area and Perimeter sheet. There are 14 different pieces and 2 repeats. Use these pieces to do the following:

1. Order the pieces according to their areas.

2. Compare the perimeters of each of the pieces.

3. Display your results to show the relationships between the areas and perimeters.

4. Write summary statements.

Going further:

1. Sort the pieces by shape. Compare the areas and perimeters of the triangles, and then of the squares, and then for the rectangles and parallelograms. What do you notice?

2. Try the same investigation using the Pattern Blocks. Try it for the Tangram pieces as well.

3. Similar shapes have the same shape, but are different sizes. You can informally test to see if two shapes are similar by "sighting" with one. Here's how. Place the large square on the table. Stand up so you're looking down on it. Hold the small square in one hand, close one eye, and move the square up and down until it exactly covers the larger square. Because it covers it exactly, they are similar. Will all squares be similar? Test the triangles, parallelograms, and rectangles the same way. Which are similar and which are not?

4. All 16 pieces fit perfectly into a 6" x 9" rectangle. How many different ways can they be arranged? Could all 16 be arranged into a triangle, a square, a parallelogram, or different size rectangle?

5. Take a loop of string. What's the shape of the largest area you can enclose with the string?