Lessons with Pattern Blocks

I. Find the measure of all the angles for each pattern block. You are given only that the square has four right angles. (Do not use a protractor for this lesson!) Have the students trace each shape and prove how they figured out the measure of each. For example, place the three tan parallelograms so that the acute angles cover one 90 degree angle on the square. They can see that 90 divided by 3 is 30, so the acute angles are each 30 degrees.

II. Find a group of blocks to make each of the following polygons: Square, Rhombus, and trapezoid. Record the shape, length of each side, the perimeter and blocks used. Then use the same group of blocks to make another polygon having a different perimeter. Record the shape, the length of each side, and the new perimeter. Use any side of the triangle as a measure of 1 unit of length.

III. Make each polygon with the blocks described. Then use the same blocks to make a different polygon having a different perimeter. Trace to record. For each polygon, record the length of each side and the perimeter. Use any side of the triangle as a measure of 1 unit of length.

a. Use 6 squares. Make a rectangle having a perimeter of 10 units.
b. Use 9 squares. Make a square having a perimeter of 12 units.
c. Use 4 tan parallelograms. Make a parallelogram having a perimeter of 10
d. Find a group of blocks to make three pentagons having different areas. Record the shape, the length of each side, the perimeter, and blocks used. Then use the same group of blocks to make another polygon having a different perimeter, but the same area. Use any side of the triangle as a measure of 1 unit of length.

IV. Find a group of blocks to make 3 different hexagons. Record the shape, the length of each side, the perimeter, and blocks used. Then use the same group of blocks to make another polygon having a different perimeter. Record the shape, the length of each side, and the new perimeter. Use any side of the triangle as a measure of 1 unit of length.