Growing with Mathematics

Topic 19 Investigating Area

In this topic, students find the areas of irregular shapes, such as their hands, by tracing the shapes on grid paper (or superimposing grid paper on the shapes) and then counting whole squares and partial squares to find the total area. Students also learn to use standard units, such as square inches and square centimeters, as units of area.

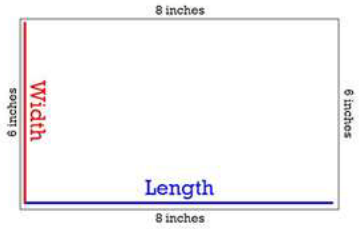
Students used the formula area= base X height to calculate the area of a rectangle in topic 14.
In this topic, they analyze rectangles divided into triangles. They conclude that when a triangle and a rectangle have the same base and height, the area of the triangle is one-half the area of the rectangle, or area = ½ (base X height). Students' hands-on experiences provide them with a solid conceptual base for understanding these formulas for area.

We will use real word examples for finding area giving the students experience in proportional reasoning as well as practice in multiplication, estimation, and area measurement.

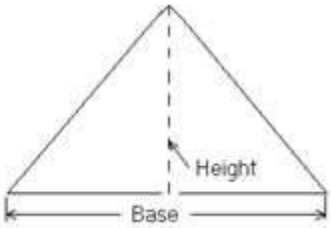
Common Mistake: Children assume that if there are 12 inches in 1 foot, there must be 12 square inches in 1 square foot.

Students learn that there are 144 (12 X 12) square inches in a square foot.

Rules to remember:



Area of a rectangle = base X height



Area of a triangle = ½ (base X height)