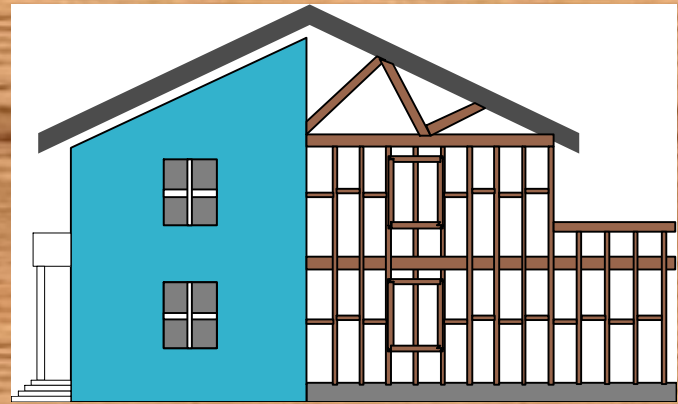
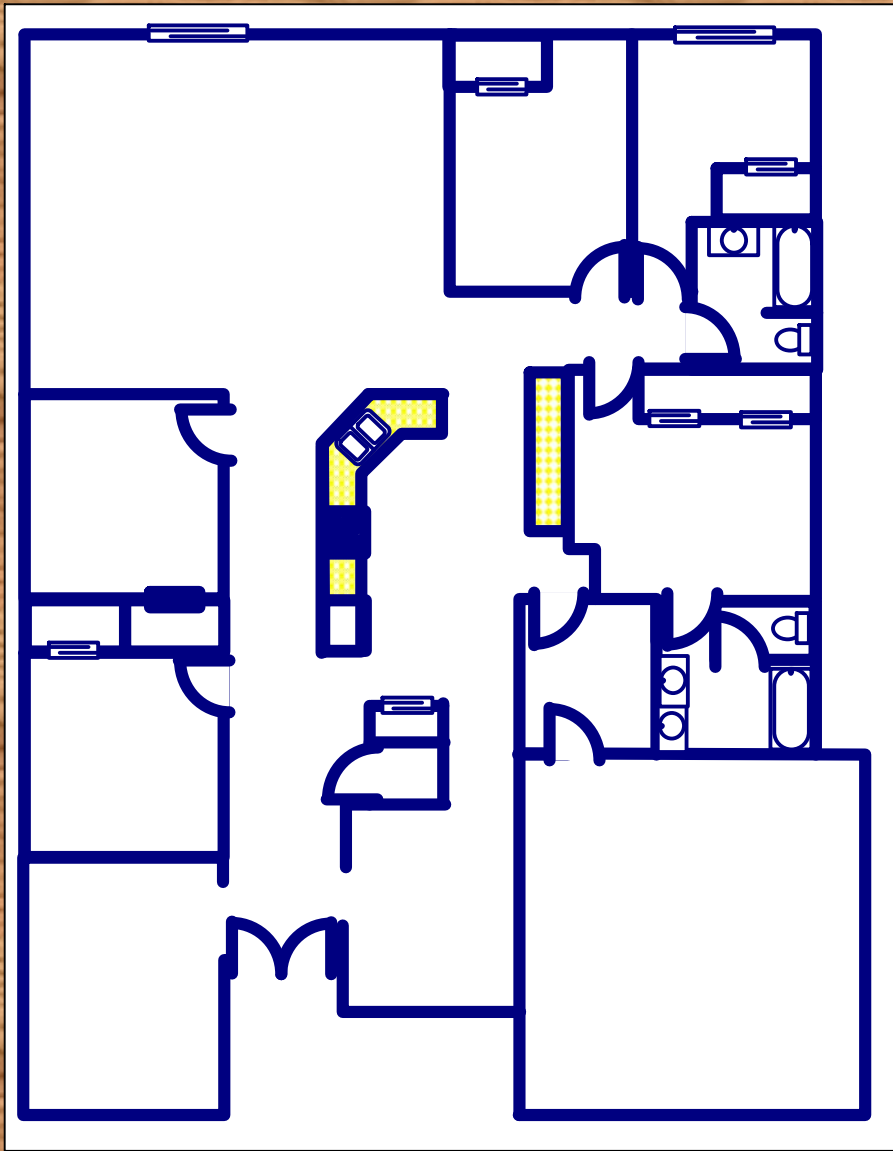




DESIGNING

A

HOME



By Nancy L. Wilkinson

Lesson Five Surface Area

Objective: Students will be able to calculate the surface area of different objects.

Materials:

Geoblocks or different containers

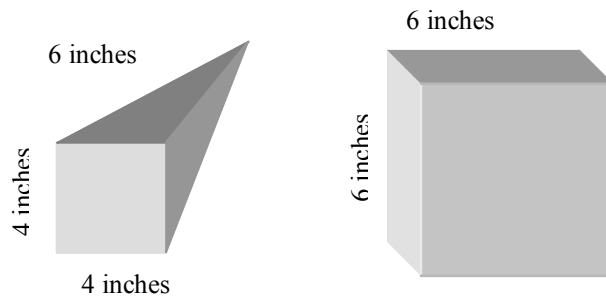
Activity Four Review:

Pass out the various circles. Students should use the formulas to calculate the circumference and area of each circle.

Activity:

1) Place the different Geoblocks or containers on each table. What does surface area mean?

2) Use the formulas that we have learned, find the surface area of each shape. *(You might want to review the formulas for finding area.)* Be sure to draw the shape to the best of your ability and label each edge with a measurement. Can you write the correct name for the shape? Examples are pyramid, prism, cone, cylinder and cube. *Draw the example below on the board.*

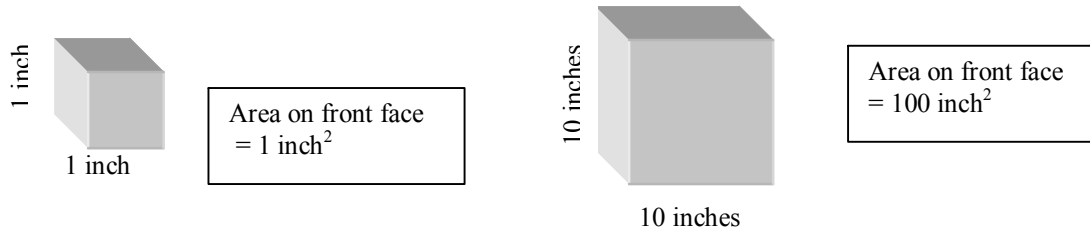


3) What would be the surface area of a shape that is ten times the size of the shape you chose? Write a simple explanation on how to find the surface area of the larger shape. Be sure to write the directions in paragraph form. The first paragraph should state what you are going to do. The next paragraphs should be simple directions on how to find the surface area for the type of shape you chose. The final paragraph should conclude what you just explained.

Closure:

Students may share their paragraphs with the class. Discuss as a group how you would go about finding the size of a shape that is ten times larger. Does it make the area ten times larger? *(If each size was ten times larger, the area would be 100 times larger. See below for an explanation).* Is this true for a rectangle or parallelogram? Is it true for a triangle? Create a chart or spreadsheet to calculate the areas. (A chart is shown on the next page.)

Areas of Basic Shapes with a Comparison of a Shape Ten Times in Size

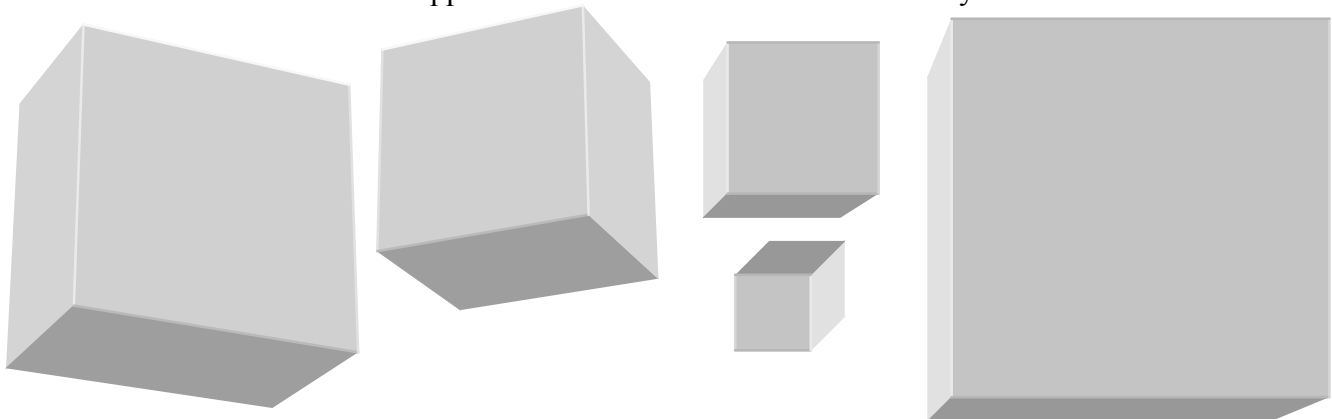


Shape	Length	Width	Area One (square units)	Ten Times Length	Ten Times Width	Area Two (Square units)
Square	1	1	1	10	10	100
Rectangle	1	2	2	10	20	200
Triangle	1	2	1	10	20	100
Parallelogr	1	2	2	10	20	200

Shape	Length	Base 1	Base 2	Area One Square Units	Ten Times the length	Ten Times base	Ten Times Base 2	Area Two Square Units
Trapezoid	1	2	3	2.5	10	20	30	250

Shape	Radius	Area One Square Units	Ten Times the Radius	Area Two Square Units
Circle	1	3.14	10	314

The above charts show that if the dimensions of a shape are increased ten fold, the area is increased 100 times. What happens if the dimensions are increased only five times



Each square is approximately 1cm x 1cm
Each square is approximately 2' x 2'

