Full Name: _____   **Date:** _____   **Block:** _____

2D Shape Activity

In this activity, you will make your own 2D that will then be used to understand its physical properties such as Perimeter and Area.

Must show supporting work to justify your answer to receive full credit

Note: for this activity we will assume the blocks have negligible thickness.

Activity 1a:
- Shape MUST contain 12 cubes
- Arrange the cubes how you wish to create a 2D shape.
- Draw and label this shape neatly on the provided graph paper.
- Calculate this shapes Perimeter (assume a unit length of 1 for each cube). Show your work and final answer on the drawing.
- Calculate this shapes Area (assume a unit area of 1 for each cube). Show your work and final answer on the drawing.

Activity 1b:
- Rearrange the 12 cubes to make a new shape
- Draw and label this shape neatly on the provided graph paper.
- Calculate this shapes Perimeter (assume a unit length of 1 for each cube). Show your work and final answer on the drawing.
- Calculate this shapes Area (assume a unit area of 1 for each cube). Show your work and final answer on the drawing.

Questions:

How do the perimeters of the two shapes compare?

How do the Areas of the two shapes compare?

Is there a configuration (i.e. shape) where perimeter is the largest? If so, make and draw this shape and calculate its perimeter.

Is there a configuration (i.e. shape) where perimeter is the smallest, If so, make and draw this shape and calculate its perimeter?

Activity 2a:

- Shape MUST contain 25 cubes
- Arrange the cubes how you wish to create a 2D shape.
- Draw and label this shape neatly on the provided graph paper.
- Calculate this shapes Perimeter (assume a unit length of 1 for each cube). Show your work and final answer on the drawing.
- Calculate this shapes Area (assume a unit area of 1 for each cube). Show your work and final answer on the drawing.

Activity 2b:

- Rearrange the 25 cubes to make a new shape
- Draw and label this shape neatly on the provided graph paper.
- Calculate this shapes Perimeter (assume a unit length of 1 for each cube). Show your work and final answer on the drawing.
- Calculate this shapes Area (assume a unit area of 1 for each cube). Show your work and final answer on the drawing.

Questions:

How do the perimeters of the two shapes compare?

How do the Areas of the two shapes compare?

Is there a configuration (i.e. shape) where perimeter is the largest? If so, make and draw this shape and calculate its perimeter.

Is there a configuration (i.e. shape) where perimeter is the smallest, If so, make and draw this shape and calculate its perimeter?

Is there anything special about using 25 cubes? What is it? Explain.

Problem:

You are contracted to build a rectangular garden. The homeowner has 180 feet of fencing they would like to use. What is the maximum possible garden area possible given the length on fencing provided? **HINT: Draw a Picture**!!!