**Growing Shapes in the Garden Betty Darleen Horton**

**Grades 3 – 5 dhortonky@gmail.com**

**NGSS: Interdependent Relationships in Ecosystems**

**3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.**

**MP.4 Model with mathematics.**

**Pre Assessment: What do plants need to grow? How can a garden be designed for many kinds of plants?**

**Vocabulary: perimeter, growing requirements, measurement**

**Materials: paper, clipboards, pencils, measuring tools, seed packets (empty packets are fine)**

* **Begin with students gathered in the garden area. Tell students they will begin the activity by doing a quick observation of the gardens. They are looking for three things: 1. What shapes are the garden beds? How many different kinds of plants are in a garden bed? 3. Does the plant have everything it needs to survive and to grow in that space?**

**Give students about 5 minutes to complete this introduction to the lesson. For this short period of time, have a pre- set signal for them to return.**

* **Pass out clipboards, pencils, rulers, measuring tools, and seed packets to teams of 2 students each.**
* **Instruct the students to use the measuring tools to determine the perimeter and area of one of the garden beds. (P=2L + 2W) (A=L x W) This is true for the straight sided garden spaces.**
* **Based on their calculations, have students use the information on the seed packets to design and layout a garden space for growing that particular plant. They must take into consideration the amount of space needed for optimum growth factors. They may use the garden bed shape they measured or they may create one of their own.**
* **If time allows, have two groups join and design a garden space that will accommodate 2 or more types of plants.**

**Post Assessment: Were students able to find the perimeter and area of a garden bed? Were students able to correctly design their own garden bed based on the needs of the plants on their seed packet?**

**Science, Math, Art Design**