



Square Foot Planting

Overview:

Students will use the skills they have learned regarding measuring the area of their garden beds to create a square foot lay-out for their beds. Then, reading their seed packets, they will determine how much space each plant will need to grow. Last, they will determine how many seeds they could plant in one square foot section of their beds, recognizing that several seeds — like small lettuce seeds — can be planted in the same hole (and then “thinned out” later. Please note that this is a *review* lesson based on elementary standards.

Objectives:

At the end of the lesson students will be able to:

-  **Divide** garden beds into approximately 1 foot squares using a measuring tape, string and thumb tacks or pushpins to demarcate the square foot sections.
-  **Design** a garden bed to grow one type (or various types) of vegetable(s) by calculating how many of the plants can fit into a square foot. This information can be found on the seed packets for each kind of plant.

Preparation:

-  Prior to the lesson, review the handout and prepare materials for students.

Vocabulary:

-  square foot
-  cubic foot
-  “thinned out”

Materials:

-  Rulers for each pair of students
-  Masking tape for each pair
-  Measuring tapes for each pair
-  String for each pair
-  Scissors for each pair
-  Thumb tacks or push pins for each pair
-  Pencils for each pair
-  A packet of seeds for each pair
-  Gloves
-  Small watering cans with spouts with fine holes

On the Board:

-  Student Reflection Questions
-  A drawing of a garden bed divided into square foot sections

Suggested Snack:

-  Serve whatever vegetables you will have the students planting in the lesson.

Learning Activities:

1. Warm-Up Activity (5 min.)
 - A. Ask students to recall from the last lesson what the approximate volume of their garden beds is.
 - B. Tell them for today's lesson, they will divide their beds into square foot sections and determine how many seeds to plant in each section.

2. Activity: Design Your Own Garden Bed. (20 min.)
 - A. In pairs, have students create a "square foot" outline on their desks using rulers and making tape.
 - B. Distribute seed packets. Use seeds that can be planted directly into the ground and not started in containers on the potting tables.
 - C. Students should read on the packet how far apart they should plant each seed.
 - D. On their outlined square foot, using rulers, students should lay out their seeds to determine how many seeds they can plant in 1 square foot.

3. Garden Activity: Planting seeds. (25 min.)
 - A. Take students out into the garden and have them measure their garden beds so they are divided into 1 foot square sections. They should use a pencil to mark where the 1 foot sections are on the length and width of their beds so that they can attach string going both directions.
 - B. Demonstrate the proper techniques for planting seeds.
 - Carefully shake out seeds into the palm of one hand.
 - With the fingers of the other, place the seeds into the 1/4-1/2" hole you have created.
 - Put 2-3 seeds in each hole.
 - With one of your fingers fill the hole with soil and press down over the seeds.
 - Water the cells with a small watering can with a spout with fine holes. The water should come out very gently, like a light spring rain.
 - Working as a team of 2, students will plant their seeds in the garden bed.

4. Snack (5 min.)
 - A. Serve whatever vegetables you will have the students work with in the lesson.

5. Have students answer the reflection questions in their garden journals. (5 min.)

Student Reflection Questions:

1. What did you learn about dividing beds into 1 foot squares in this lesson? Was it easy or difficult? Did you come up with any short-cuts?
2. What did you like, or not like, about working with a partner during this lesson?

Assessment Questions:

1. You have 1 square foot of space to plant carrot seeds. Each seed should be placed 2 inches apart. How many seeds can you fit into your planting space? (5 seeds - note that you cannot plant seeds on either edge of the garden bed)

Standards:

CCSS: Mathematics

CCSS.MATH.CONTENT.2.MD.A.1

Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

CCSS.MATH.CONTENT.3.MD.C.5

Recognize area as an attribute of plane figures and understand concepts of area measurement.