

Hands-on STEM activity

Practicing Math with Square Foot Gardening

Recommended for Grades 3-7

Background:

Students can practice their math skills all summer long with this activity, which parents and children can do together. The activity comes from ideas provided in the book *"Square Foot Gardening,"* and *"All New Square Foot Gardening"* by Mel Bartholomew. Bartholomew, a former engineer, notes that most academic research and experimentation is geared toward the needs of commercial farmers, where out of practicality you grow in long rows. In a home garden, it's much more practical to grow in grids. In this method, the garden space is divided into beds that are easily accessed from every side.



What you need:

- For a raised bed: 1 by 6 or 2 by 6 lumber is ideal, and comes in 8-foot lengths. Most lumberyards will cut it in half at little or no cost. Use deck screws and a screwdriver to fasten them together.
- For a staked bed: Wooden or bamboo stakes
- Coated string or twine
- A staple gun or tacks
- Yard stick or tape measure
- Packets of seeds or small seedling plants
- 12 x 12 pieces of paper (if desired)
- Permanent marker
- Good quality soil to plant in (amend if necessary, with a mix of 1/3 blended compost, 1/3 peat moss, and 1/3 coarse vermiculite).
- Garden Rake
- Trowel
- Water



What to do:

1. Explain to your students that they are going to create a "square foot" garden.
2. Provide them with the information you have about the space you have for a garden. Then have them calculate how many square feet they will have for a garden space. Younger children may use several 12 x 12 pieces of paper and actually place those in the garden to help them visualize, then count how many square feet they will have.
3. Once you have determined your garden's size, fill your garden space with a soil mix that will provide an excellent growing medium for your seeds.
4. Now you have two choices (A) use garden stakes and twine to divide your garden into one foot sections or (B) use 2 x 6s to create a raised planting bed.
5. If you chose "A": Once the size of the entire garden has been determined, have children mark off each foot and place a stake in the ground to mark each foot. Then, tie string to wooden stakes so you have several staked off square feet in which to plant.
6. If you chose "B": Build a frame for your garden with the 2 x 6s. Once the frame is in place in the garden, use the marker to mark off the feet on the wooden frame and pull your twine across your bed, going from one mark to the opposite side of the bed to the second mark, matching them up. Using your tape, tape the twine down to the frame. Do this for each line across, horizontally and vertically. Then, with your staple gun or tacks, staple or place tacks right on the twine to keep it in place.
7. Choose several different types of crops to grow. Have your children read seed packets to see how far apart the package recommends planting the seeds. Then ask your children to calculate how many of that type of seed they can plant in one square foot. For example, if a child chose bush green beans, he or she would need to figure 4 inches between plants or 9 plants would fit into the 12-inch square.
8. Have children plant the seeds and care for them according to the seed packet directions.

For more information check out: <http://www.squarefootgardening.org> and the *Square Foot Gardening Lesson Plan for Children: Learn How to Garden with New "Earth-Friendly" Method* available at Amazon.com.