Gardening is an enjoyable activity for all ages, but especially for children, it’s an opportunity to learn and grow while getting their hands dirty.

In gardens, students are given a space to reconnect with the world around them and learn important lessons about agricultural systems. By growing their own fruits and vegetables, students can discover where their food comes from, how it’s produced and how it provides nourishment.

Students also can learn the importance of a healthy diet by growing their own food. Additionally, gardening promotes physical activity—a key component in fighting childhood obesity. Gardening encourages children to take pride in their work, and garden-based learning has been shown to positively impact students’ behavioral and educational development.

As students continue to learn in the field, they’ll also discover the differences between growing crops in gardens and raising them commercially on farms. While farmers’ efforts to produce their commodities often are assisted by heavy farming equipment and advanced technology, most gardening work is done by hand and is labor-intensive. Seeds typically are planted individually in small quantities in gardening plots. By contrast, farmers use drills and planters to plant seeds across hundreds or thousands of acres in their fields.

However, gardening doesn’t come without its advantages. Because gardens are much smaller than farms, gardeners can plant whatever they want in their plots, while most farms are limited in the number of commodities they can efficiently produce. With less land to manage, gardeners can focus on individual plants to ensure plentiful harvests, making self-sustenance an achievable dream for agriculturalists of any experience level.
Garden Spotlights

MARIE CULVER – Seatack Elementary School, Virginia Beach

Q How did your garden begin? How has it grown?
A Our garden began in May 2016 with six raised beds. It’s now a community garden with 27 raised beds. We use the herbs and vegetables for school lunches, and the students’ families also harvest fresh produce throughout the entire year.

Q What plants do you have in your garden? Which have worked especially well?
A Our garden includes apples, asparagus, basil, blueberries, broccoli, Brussels sprouts, cabbage, carrots, cauliflower, celery, cilantro, collard greens, dill, figs, kale, lemon thyme, lettuce, mint, okra, oregano, parsley, peaches, pears, radishes, rosemary, rutabagas, strawberries, Swiss chard and tomatoes.

Our crops are doing well, and our students plant twice a year. Everything is growing despite occasional pests that we eliminate organically.

Q What has been your best teaching moment using the garden?
A The best teaching moments come when our students plant their crops and nurture their grades’ raised beds independently. The students also are independently harvesting crops, collecting data and problem-solving, and are becoming confident gardeners.

SHARON MOHRMANN – Orange County Elementary School

Q How did your garden begin? How has it grown?
A Our Peter Rabbit Gardens began 13 years ago in raised beds that grew more weeds than vegetables. Four years ago, we received a grant that has allowed us to purchase 300-gallon plastic stock tanks. We were able to find a matching grant, and now each kindergarten classroom has its own vegetable garden. This year we were awarded an additional grant to add a tub in which we’ll plant native plants to attract pollinators.

Q What plants do you have in your garden? Which have worked especially well?
A My advice is to start small with a big vision. Our garden started as a big dream with six raised beds, and now it is the most important part of our school. The garden not only nurtures plants, but also dreams and memories for our school family. One first grader said, “Our garden is my best friend.”
in the soil, carefully clipping the lettuce leaves, picking the small peas and pulling up the bright red radishes—their eyes get as big as the radishes as they pull that surprise from the soil.

Q  What advice do you have for other teachers looking to start or expand a garden?

A  With many trials, I have learned that good soil and containers make a world of difference. Also, having a close water source is helpful. I have hauled many gallons of water on hot days. Finding a local garden club or master gardener to assist with obtaining plants or seeds or serving as an extra pair of hands is helpful. The combination of classroom lessons and hands-on experiences make for a very successful learning environment.

Q  How did your garden begin? How has it grown?

A  Our garden began after students harvested pumpkin seeds from the class pumpkin and wanted to plant them. After we received a grant that funded a lighted, indoor growing station, students could choose to plant carrots, flowers, grass, lettuce or pumpkin seeds. Our seeds sprouted and grew very well in our indoor growing station. The balance of the additional funds is earmarked for benches to provide seating for outdoor learning in our garden when school reopens for students.

Q  What plants do you have in your garden? Which have worked especially well?

A  The grasses grew quickly and excited the students. The carrot, lettuce and pumpkin seeds also grew well, and one pumpkin was harvested.

Q  What has been your best teaching moment using the garden?

A  The ability for the students to harvest their own pumpkin seeds, plant them and see the life cycle of the plant was a very rewarding teaching experience.

Q  What advice do you have for other teachers looking to start or expand a garden?

A  The growing station is a wonderful way to grow plants indoors during the wintertime. Bringing the garden inside was amazing!
Peek-A-Boo Flower Pot

Background Knowledge
The basic necessities for a seed to grow include light, food and water. Sunlight or an artificial lighting system provides the energy plants need to perform photosynthesis, the process they use to produce their own food. Seeds have built-in food supplies, and the food located inside them will feed plants once they sprout, or germinate, from the seeds. Once a plant reaches a certain size, it will begin to absorb nutrients from the soil through its roots to help with photosynthesis. Water is essential to all living things, and plants are no exception. Plants receive water through their roots and veins in the stems and leaves, absorbing water from the soil that surrounds them. When the area around their roots becomes dry, some plants’ roots will continue growing to find a new source of water.

Ornamental plants and flowers, like the ones that typically are found in pots and other containers, are part of the horticulture industry. Horticulture is an important segment of agriculture and includes cut flowers, landscaping plants, turfgrass and many other plants.

Procedure
1. Cut a square in the middle of the flower pot to reveal a window for your seed.
2. Wet a cotton ball. It should be thoroughly wet, but not dripping.
3. Place two to three seeds on the cotton ball, and place it inside the plastic bag.
4. Close the bag, and tape it to one side of the flower pot.
5. Allow students to color and decorate their flower pots.
6. Tape flower pots to a window to allow students to monitor their seeds’ germination and growth.

Extension
Once students’ seeds begin to sprout, you may remove them from the plastic bags and replant them in a container. Be careful when removing seedlings from the cotton balls, as the roots may tear. Seeds and plants best suited for replanting are flowers such as daisies, marigolds and zinnias, or vegetables such as beets, peppers or radishes. Herbs such as basil, cilantro, parsley or rosemary also are excellent plants for preschool container gardens.

Download a Peek-A-Boo Flower Pot template, and discover additional gardening activities from Virginia Agriculture in the Classroom.
LESSON PLAN 2

Newspaper Garden Pots

**Background Knowledge**
Germination occurs when a seed sprouts and begins to grow. It’s important for students to understand that this process begins when there is a bud present in seeds. Explain to students that their sprout will need some time to grow, and that every plant matures at different times. Ask students what their plant will need to grow. All plants need water, light, nutrients from soil, oxygen, time and space to fully mature. This is something you can teach your students as they plant their own seeds. The process their plants will undergo also is something that should be discussed and monitored for a few weeks.

**Procedure**
1. Discuss seed germination with students, and identify the conditions seeds need to sprout.
2. Take a sheet of newspaper and fold it horizontally, leaving a portion showing at the top.
3. Fold the remaining portion over the previously folded section to create a thicker top.
4. Place a can so that its edge is level with the top edge of the newspaper. With the newspaper on the outside, roll the can along with the newspaper to create a paper tube.
5. Then, place the can end-down, and fold the leftover newspaper inward to create the bottom of the pot.
6. Remove the can from the newspaper pot.
7. Fill the pot with soil, and plant seeds.
8. Record the plant’s progress in a journal.

**Extension**
Once the plants have grown large enough to plant outside, the entire pot can be planted into the ground. The newspaper will decompose in the soil.

Watch a Virginia Agriculture in the Classroom demonstration of the Newspaper Garden Pots activity!
BONUS ACTIVITIES

Square Foot Gardens

Square foot gardens are ideal for raised beds and containers, offering a great way for students to take ownership of their own gardening sections. In your garden, mark off square-foot grids using twine or wood slats. Otherwise, use pots that are 12 inches in diameter.

Planting recommendations

Once your garden is marked off, you can decide which plants go in each square-foot grid. Depending on the plant, you can plant several seeds in each 12” x 12” square.

- One plant per square-foot, with one seed planted in the center of each square: broccoli, cabbage, cauliflower, head lettuce, kale, large sunflowers, Patio tomatoes, peanuts, peppers, potatoes and New Zealand spinach.
- Four plants per square foot, with seeds planted 6 inches apart inside each square: basil, coriander, dill, leaf lettuce, mustard greens, parsley, parsnips, shallots, small sunflowers, sweet corn (small varieties), Swiss chard and turnips.
- Nine plants per square foot, with seeds planted 4 inches apart inside each square: anise, bush beans, chervil, corn salad (mache), leeks, nasturtiums and spinach.
- Sixteen plants per square foot, with seeds planted 3 inches apart inside each square: beets, carrots, cumin, garden cress, onions and radishes.

Teachers and students can decide what to plant inside each 12” x 12” square.

SEED BALLS: Get your hands dirty by making these with your students!

To create a seed ball, you will need craft clay, potting soil and seeds. Seeds from native wildflowers make an excellent choice because they will attract pollinators, an essential visitor to any successful garden.

To make between 24-30 seed balls, begin by combining 10 ½ ounces of craft clay with 6 ounces of potting soil. If the mixture is too dry, you may need to add some water. The consistency of the soil mixture should be similar to cookie dough. Next, add 3 ounces of seeds to the mixture, and form into balls about the size of golf balls.

To plant the seed balls, simply find a plot in your garden or yard in need of extra greenery, and lay them on the ground. Flowers will begin to grow once the seeds have been watered or it rains.

Video Lessons

Watch horticulturalist and floral designer David Pippin demonstrate helpful tips and tricks for successful container gardens.

Listen to a reading of Demi’s The Empty Pot, narrated by actor Rami Malek.
BOOK CORNER

Farmer Will Allen and the Growing Table, Jacqueline Briggs Martin, Lerner Publishing Group, ISBN: 9781430130017


Garden theme suggestions
Books make great garden themes! Depending on the size of your plot, you can draw inspiration from popular stories to implement in your own classroom garden. Fun examples are The Tale of Peter Rabbit, Jack and the Beanstalk, Tops and Bottoms, The Tiny Caterpillar and Growing Vegetable Soup.
About the Newsletter

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For additional information and activities, visit our website at AgInTheClass.org or call 804-290-1143.

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Gardening teaches students to take pride and ownership in their work.