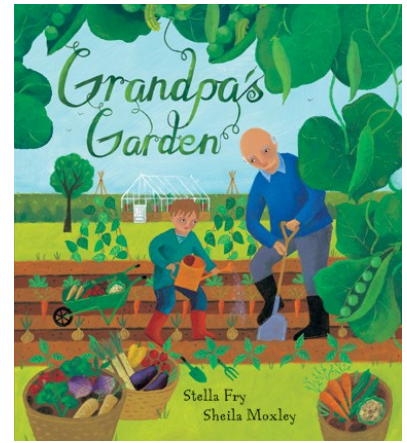


## March 2017 Book of the Month

### *Grandpa's Garden*

By: Stella Fry

Billy and his Grandpa start planning the garden in the early spring, and Billy learns gardening requires lots of patience! He learns how to dig into the ground to prepare the garden, and how to plant the seeds. He learns how to harvest the crops, and to save seeds for next year's garden. Their journey continues through late summer, and Billy sees how the garden changes and grows. He learns to watch the garden, but also the world around the garden, which is bursting with life—insects, birds, and animals.



### Fun Facts:

- Vertical gardens are becoming more popular for urban areas where space is limited for gardening. Plants that do not need large areas to spread out, like strawberries and peas, are good options for vertical gardens. <sup>1</sup>
- Growing throughout the year in North Carolina is made possible due to our temperate climate. It is usually warm enough for gardens to grow at least three seasons. <sup>2</sup>
- Animal pollinators help pollinate 75% of flowering plants and 75% of crops. <sup>1</sup>
- One teaspoon of garden soil can have up to 1 billion bacteria, several yards of fungi, thousands of protozoa, and countless nematodes! <sup>1</sup>
- The top five most popular garden vegetables planted in North Carolina are: tomatoes, peppers, green beans, lettuce, and squash. <sup>3</sup>

### Activities

#### Garden Design Research Project <sup>1</sup>

Split the class into groups of 3-4 students. Assign each group a garden theme:

**Herb Garden:** a garden consisting of various types of herbs, such as sage, parsley, mint, lavender, basil, thyme, rosemary, etc.

**Flower Garden:** a garden full of blooming plants

**Pizza Garden:** a garden that contains vegetables and plants we use to make pizza, such as oregano, onions, tomatoes, bell peppers, basil, garlic, etc.

**Historical Garden:** many early settlers grew peanuts, cotton, corn and soybeans in their gardens to supply food and fiber for their communities

**Mixed Garden:** a garden containing both fruits and vegetables

Ask the groups to research their theme, and determine which plants they will grow. Next, the groups will start on the design. There are several things to consider in the design process:

Size: Determine the amount of space needed for the type of garden, according to plant size and growth.

Traffic patterns: Decide if there will be walking paths, or walking rows in the garden.

Types of plants: The plants considered in each garden theme come in a variety of shapes, growth habits and colors. Research the growth habits of the plants. The groups will need to carefully plan how the plants are arranged in the garden so that the garden is organized, and plants do not crowd each other.

Plant Hardiness: Are the plants selected hardy to North Carolina's climate? In other words, is it too hot/cold here for the plants?

The students should draw out their garden design and label where each plant will be planted in the plot. They can use markers, or colored pencils for the design. Once the designs are complete, have each group present their gardens to the entire class, explaining their theme, plants, and designs.

### **Garden Vegetable Graphing <sup>4</sup>**

Ask each student to bring their favorite salad vegetable. Wash, peel, and chop each vegetable into bite-sized pieces. Invite the students to taste each vegetable. After everyone has tasted the vegetables, let everyone vote on the two they liked the best. Make a chart or graph of the results. Which vegetable was the tastiest, according to the class? Which vegetable did everyone like the least?

### **Bug Hunt <sup>1</sup>**

Explain the meaning of a *pollinator* to the class (an insect or animal which is responsible for spreading pollen amongst plants, causing a seed to grow and eventually become a fruit, nut or vegetable). Ask the class if they can name any insects or animals that are pollinators. Some of the most common pollinators include bees, birds, bats, moths, beetles, butterflies, and the wind. Next ask the class what they think a *beneficial insect* is. A beneficial insect is an insect that doesn't harm the plant or crop, but can also help ward off harmful insects. See the list of beneficial insects and their roles below:



Ladybugs: One of the most common beneficial insects. They eat harmful aphids and spider mites.



Green Lacewings: The larvae of this insect prey on invasive beetles and caterpillars. It only takes 10 days for the larvae to hatch!



European Mantis (more commonly called “Praying Mantis”): These insects will usually prey on any insect smaller than itself. In some cases they have been known to eat small snakes, and lizards!

Take a walk around the school to see if the students can identify any of the beneficial insects or pollinators discussed. If possible, take a field trip to a local garden center.

### Soil Sample <sup>1</sup>

Fill a clear jar about 1/3 full of soil. Add water until the jar is full. Shake and then leave to settle for at least three hours. Observe the layers of soil. Sand will settle to the bottom, silt will be in the middle and clay will be on top. For a math challenge, measure and calculate the percentages of each.

### Tool Time <sup>1</sup>

Gardeners have many tools to help them care for plants. Read the paragraph below and ask the class to pay close attention to the bold words. Using the pictures below, or other pictures you have printed, have them match the picture with the tool.

Billy and his grandpa are excited to plant their new garden! First, they put on their **gloves** and head to the garden. They carefully pull the weeds. Grandpa picks up a **shovel** and pushes the shovel into the soil. He carefully turns the soil over in one scoop. Billy uses a **hand tiller** to make room for the plants to grow. Grandpa uses a **garden hoe** to make straight rows in the soil. He picks up a **hand trowel** and digs small holes along the row for the seeds. Billy carefully covers the seeds with soil. He uses a **hose** to water the seeds. Billy and Grandpa watch as the garden grows. When the time is right, they carefully pick their fruits and vegetables to share with others!



Shovel



Gloves



Garden Hoe



Hand Tiller



Hose



Shovel

**Links:**

- What's in Season? Chart  
<http://www.ncagr.gov/markets/chart.htm>
- RIF Grandpa's Garden Educational Guide  
[http://www.rif.org/media/Grandpas\\_Garden-All.pdf](http://www.rif.org/media/Grandpas_Garden-All.pdf)
- School Garden Ag Mag  
<https://www.dmsfulfillment.com/FarmBureau/DMSSStore/Product/ProductDetail/24764>

**Sources:**

1. American Farm Bureau Foundation For Agriculture. School Garden Ag Mag. Print.
2. [http://www.journalnow.com/archives/n-c-s-three-season-gardening-growing-throughout-the-year/article\\_d46cf5c8-77d6-5773-863e-4c84a6fb9a6e.html](http://www.journalnow.com/archives/n-c-s-three-season-gardening-growing-throughout-the-year/article_d46cf5c8-77d6-5773-863e-4c84a6fb9a6e.html)
3. <http://blackhawkhardware.com/5-best-vegetables-to-plant-right-now-in-north-carolina/>
4. [http://www.rif.org/media/Grandpas\\_Garden-All.pdf](http://www.rif.org/media/Grandpas_Garden-All.pdf)