Pre Trip Information:

What to expect: The Let’s Sprout program at Blandy Experimental Farm and the State Arboretum of Virginia is designed to introduce or review the parts of a plant and the functions of each part. We also build on the concept of life cycle as it relates to plants.

During the program we do interactive concept-building activities, plant seeds to take home and take a nature walk. One of the activities involves looking at the embryo inside a bean seed. On our walk, we will look at plants in different stages of their life cycles - some just coming up, some in bud, some blooming, some with dying blooms and developing seeds.

Vocabulary List
Seed- ovule that will produce a new plant
Seed Coat- outside protective part of a seed
Roots- part of plant, usually underground, that absorbs water minerals from the soil
Stem- main stalk of plant, transports food and water
Leaf(leaves)-usually green part of plant that performs photosynthesis
Flower- reproductive structure of a plant, often colorful to attract pollinators
Cotyledon- part of the seed that stores food for the growing embryo

Before you come: Before your students come to Blandy, you might take them for a brief walk on school grounds to observe the plants growing there. How many different plants do they see? How are they different and how are they the same?
Have them draw two different plants, showing at least three different plant parts.

Have fun, and we will see you soon!
Let's Sprout!

Post Trip activity: Plant Parts are Yummy!

Now that your students have been introduced to the parts of Fred the Flower, they might enjoy identifying the parts of the plant that their food comes from.

The majority of our diet is plant-based foods. We generally call these foods fruits, vegetables, and grains. People have cultivated plants to harvest a variety of edible parts. We eat the roots (carrots), stems (asparagus or potatoes), leaves (lettuce), flower buds (broccoli), fruit (apple, tomato, cucumber), or seeds (peanuts and grains).

Using pictures, models, or real foods, ask your students which part of the plant each food came from. You can use all different kinds of plant products, including canned, dried, or otherwise processed food. You could also break the students into small groups and assign them 4-6 foods from different parts of the plant, and their task would be to match the food to which part of the plant it came from.

This activity could lead into a discussion of food webs and/or diet. Where do milk and eggs come from? What do those animals eat? What about the animals we eat for food? One way or another, it all goes back to plants (even phytoplankton in the ocean).

Have the students trace the items in their lunch back to the part of the plant it came from, or as close as you can get. They may need some hints, like gelatin comes from pigs or cows, agar comes from algae, pectin comes from plants.

Hopefully, your students will have a greater understanding of what they’re eating and where it came from!
Taking Care of your Seeds and Seedlings

The students have planted their seeds in slightly moistened potting soil. The seeds should be kept constantly moist in order to germinate. Don’t let the growing mix dry out, and don’t get it too wet. The consistency of a wrung-out sponge is about right.

Check the containers daily and water as needed to keep the surface evenly moist, but don’t pour water in the container, or the unrooted seeds will wash right out. Use a spray bottle or watering can with a fine spray so the drops fall lightly on the growing mix. Use room temperature or warmer water, and if it’s chlorinated let it sit for a day or two before you use it.

The seeds should germinate at room temperature. Don’t put them in a windowsill, since the air there is generally colder than the room, especially during the night. If the seeds will be sent home with the students, they might try putting them on a countertop. Consistently warm temperatures, both day and night, signal the seeds to sprout.

Once sprouted, what will the seedlings need? Plenty of light! The best way to give seedlings the light they need is to grow them under fluorescent fixtures suspended just above the plants, turned on for 16-18 hours per day.

Seedlings require less moisture than the seeds needed to germinate. Begin watering them a little less often. Once they are a few inches tall, it’s ok to let the top half-inch or so of the soil get dry between waterings. Too much water will cause the roots to rot.

Once the seedlings have about four leaves on them, start to put them outside on warm sunny days, but bring them back in for the chillier nights. Once they have “hardened” to the outside temperatures, they can be transplanted to the garden, where (hopefully) Mother Nature will take over. They will still need to be watched, watered and nurtured as needed.

Have fun!