# 1st Grade: Green and Growing

**Course Description:** In this module we will discuss the internal and external anatomy of plants, and all of the different ways that plant seeds are dispersed. We will also give a short overview of a generalized angiosperm life cycle.

**Day 1:** We will have a discussion about the external anatomy of an angiosperm plant. We will begin by looking at the roots and explaining that the plants need roots in order to absorb water and nutrients from the ground. Then we will discuss the stem, followed by the leaves, and then the flowers. We will explain that in this kind of plant a part of the flower will turn into a fruit and that's how all of the fruit that we eat is created. We will explain the difference between a fruit and a vegetable and show some examples of them.
*Demonstration: Students will have the opportunity to look at several plants to observe the different parts – the roots, stems, leaves, and flowers. They will also be given a collection of fruit and vegetables so that they can try to learn how to tell the difference between the two groups*

**Day 2:** We will move on to talking about the internal anatomy of the plant. We will explain that there are two types of vessels that are running through the plant and that they carry water and nutrients up and down the stem to the roots and to the leaves – depending on the plant's needs. We will look at how these different vessels are visible by looking at slices through a stem.
*Demonstration: We will do a demonstration using carnation flowers to show how the xylem vessels in a plant's stem function to move water through the stem. We will place the flowers into different colored flasks of water so that we can show that the color travels up the stem and to the petals and leaves of the flower. We will also show how it is possible to place a wilted flower into water and that it will stand up straight again once it has been in the water for a long enough time.*

**Day 3:** During this class, we are going to talk about how plants move their seeds around when they are not able to move themselves. We will explain that the function of the fruit is to attract an animal who will help to move the plants' seeds around and show how this would work.
*Demonstration: We will perform an activity to show the students how hard it is for a plant to move its seeds when it can't move itself. The students will be given seeds (marbles) that they have to move from one place to another – without moving them themselves. They will have to draw fruits that will be attractive to their classmates who will want to come and move the marbles for them.*

**Day 4:** On this last day we will have a general discussion about how there are other kinds of plants that do not have flowers or fruit and that have other ways of moving their seeds. We will talk about plants that use wind, water, the outsides of animals (instead of using a fruit), and how different their seeds look from those that rely on flowers and fruit.
*Demonstration: We will bring in a diverse collection of seeds that have evolved to be carried by the wind and the students will need to observe the seeds to see how they look different from those that would be found inside of a fruit. We will practice tossing the wind-distributed seeds into the air to see how they move. Students can then use the seeds to make art to remember the different ways that seeds can be moved.*