Budding Botanists!

This project helps students develop a deep knowledge of plant life.

**Curriculum/State Standards**
S1L1. Students will investigate the characteristics and basic needs of plants and animals.
   a. Identify the basic needs of a plant.
      1. Air
      2. Water
      3. Light
      4. Nutrients
   c. Identify the parts of a plant—root, stem, leaf, and flower.

S2L1. Students will investigate the life cycles of different living organisms.
   b. Relate seasonal changes to observations of how a tree changes throughout a school year.
   c. Investigate the life cycle of a plant by growing a plant from a seed and by recording changes over a period of time.

S3L1. Students will investigate the habitats of different organisms and the dependence of organisms on their habitat.
   b. Identify features of green plants that allow them to live and thrive in different regions of Georgia.

**Overview**
This is a three year curriculum that helps a child develop a deep knowledge of plants. The students will learn about their native environment and parts of a plant. The students will learn how to use a microscope to develop an understanding of plant cells.

**Objectives**
The students will identify plants. The students will observe different plant life cycles during their three years in my classroom.

The students will use a microscope to develop a clearer understanding of the different types of plant cells.

**Materials**

**Readiness Activity**
The students have learned the parts of the plant by using the Montessori Plant Puzzles and by taking care of our garden.

**Strategies/Activities**
The first part of our study will include nature walks. The leaf identification kit will help us to identify the plants we see on our weekly nature walks. The students already are familiar with different leaf shapes and the parts of a leaf. With the field guides they will be able to concretely identify the plants they are observing. During this part of the study, the first graders will be able to take the leaves and put them under the microscope to compare and contrast their characteristics. The students will also start learning how to create scientific drawings of the leaves to record their learning.

The second graders will choose different plants to observe carefully throughout the year and will create their own books to record the changes to the plant during the school year. They will use the fern...
slide set to observe the plant’s life cycle. The students will also create slides and study the changes of some of the flowering plants in our environment.

The third graders will use the Plant Microscope Slide Set to begin identifying differences between mosses, ferns, and flowering plants. They will use this knowledge to help them develop a deeper understanding of Georgia plant life. The students will make scientific drawings of several plants, diagramming the parts of the plant. Each student will conduct in-depth research on one plant of their choosing.

**Culminating Activity**
The students will make scientific drawings of several plants, diagramming the parts of the plant. Each student will conduct in-depth research on one plant of their choosing.

**Evaluation Method**
My method of evaluating my students’ understanding is through observation and conversations. The ability to continue this study across a three year cycle gives me a chance to develop a very clear understanding of what they know. Not only do I assess for their knowledge of botany, but I will assess their use of the scientific method. The students will use a sketchbook to record their findings. The ability to look through and discuss their work during the three years will help me gauge their knowledge.