

plant diversity k-3

PRE/POST VISIT ACTIVITIES

Pre-visit Activity #1 - Plant Parts

Objectives: To introduce students to the parts of a plant and their functions in plant growth and reproduction.

Materials: Chalkboard and chalk or flipchart and markers

Activity: On a chalkboard or flipchart ask students to list the parts of plants that they know. Answers: roots, stems, leaves, flowers, fruits, and seeds. Ask other students, if they would like to come up and draw a picture of the plant part next to the word on the flip chart or board. You now have a diagram of a generalized plant. ***Teachers note: you may have to redraw the diagram of the plant if parts are out of order.** Once you have completed the plant diagram, ask the students what each parts job is in helping the plant to grow. Possible responses include:

- **Roots** - drinks up water and nutrients from the soil and store extra food.
- **Stems** - holds up the leaves and carry water and nutrients to all parts of the plant.
- **Leaves** - catch light and use the energy to make food for the plant.
- **Flowers** - attracts insects and birds that carry pollen so that the flower can make seeds.
- **Fruits** - protects the seeds and attracts animals to help spread the seeds around.
- **Seeds** - grows into new plants.

Pre-visit Activity #2 - Turning Over A New Leaf

Objectives: To recognize that not all leaves are the same. To recognize that plants have different adaptations that enable them to survive in specific environments.

Materials: Scavenger hunt list (original included make copies) one per group of two or three students, pencils, clipboard or cardboard to bare down on and zip lock bags for collecting.

Activity: Using the leaf scavenger hunt list, allow students (with supervision) to explore the school grounds in search of leaves from the list. Once students have collected as many types of leaves as possible have students examine the collection. Ask the following questions to generate discussion: How are the leaves the same? How are they different? Why do you think there is so much variation among leaves? Which leaf characteristics do you think might be useful to the plant? This idea of plant adaptations will be reinforced during your visit to the garden, while exploring rainforest, desert, and bog plants. The following are some leaf adaptations that you may share with the class. Having an example of these plants for your class to explore is another good way to engage students.

- To reduce water loss-thick waxy coating and spines (desert plants-cactus)
- To provide supplemental nutrients-leaves have adapted to catch and digest insects



- (bog plants-Venus fly trap)
- To transpire excess water easily-large surface area (rainforest plants-philodendron)

Post-Visit Activity - Designing A Plant

Objectives: Reinforce ideas and concepts learned from you garden visit. Continue exploration into plant habitats and adaptations.

Materials: Construction paper, markers, crayons, pencils, notebook paper, glue, cardboard, string, recycled cups and plastic bottles, and, the most important material, student's imaginations!

Activity: After exploring and observing different plant adaptations and their environments at the Atlanta Botanical Garden, this activity challenges students to "design a plant". Ask pairs of students to "design-a-plant" adapted to survive certain conditions, by making a drawing with captions or constructing a model from classroom materials. For example, students might create a plant whose leaves can:

- Catch insects
- Hold onto rocks in a river
- Survive in a pasture
- Live on a windy mountaintop

After students have completed their work, allow each student to share his or her designer plant. Display finished work in the library for other classes to observe.

Educator Resources:

Books

Adult:

- Klein, Richard M. FUNDAMENTALS OF PLANT SCIENCE. New York: Harper & Row, c1988
- Glimn-Lacy, Janice & Kaufman, Peter B. BOTANY ILLUSTRATED. New York: Van Nostrand Reinhold, c1984

Children:

- Burns, Diane L. BERRIES, NUTS, AND SEEDS. Milwaukee: Gareth Stevens, c2000.
- Hughes, Meredith. COOL AS A CUCUMBER, HOT AS A PEPPER. Minneapolis: Lerner, c1999.
- Stevens, Janet. TOPS AND BOTTOMS. San Diego: Harcourt Brace & Co., c1991.

