Flora Explorers
Discovering the Structures and Needs of Plants

General Notes About this Program
- This is an outdoor program. Participants should dress for the weather, and be aware that, at certain times of year, mosquitoes can be bothersome.
- We can serve a maximum of 60 students at a time with this program.
- Please divide your students into groups of 10-12 prior to your arrival at NCBG. We can serve a maximum of 5 groups of this size at a time.
- During their Garden visit, students will have the opportunity to taste sunflower seeds which may have been processed on equipment that processes peanuts, tree nuts, and other allergens. Please let Garden staff know if there are children who should not have the seeds because of allergies.

Curriculum Alignment
All of the North Carolina Botanical Garden’s educational programs are aligned with North Carolina and/or national education standards. The pre-visit, Garden visit, and extension activities that make up the Flora Explorers educational program align with the following standards:

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<th>Essential Standards: 1st Grade Science</th>
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<tr>
<td>1.L.1.1 Recognize that plants and animals need air, water, light (plants only), space, food and shelter and that these may be found in their environment.</td>
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<td>1.L.1.2 Give examples of how the needs of different plants and animals can be met by their environments in North Carolina or different places throughout the world.</td>
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<td>1.2.1 Summarize the basic needs of a variety of different plants (including air, water, nutrients, and light) for energy and growth.</td>
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<th>National Science Content Standards: Grades K-4</th>
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<td>Standard A: Science as Inquiry</td>
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<td>Abilities necessary to do scientific inquiry</td>
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<td>Understanding about scientific inquiry</td>
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<td>Standard C: Life Science</td>
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<td>Life Cycles of Organisms</td>
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<td>Organisms and Environments</td>
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<td>Standard F: Science in Personal and Social Perspectives</td>
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<td>Types of resources</td>
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<td>Changes in environments</td>
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Pre-Visit Activity: Acting Out

**Materials Needed:**
Potted plant, preferably in flower (if not, you should have a picture of a flower as well). Empty watering can

**Procedure:**
1. Place the potted plant in the center of the room and ask students to gather around it.
2. Ask children if anyone knows what it is and continue to take answers until someone says it’s a plant. Allow them to take a closer look, and touch the plant if needed.
3. Point out the different parts of the plant (stem, leaves, flower), each time asking them if they know what that part of the plant is. If your plant is not flowering, show them a picture of a flower. Tell the students that there is a part of the plant that grows underground also, and ask if they can name it (root).
4. Show students the seeds and ask the students if they know what they are. Ask the students what seeds “grow up” to be.
5. Tell students they are going to act like a plant and grow from a seed to a flower.
6. Close the room’s blinds and have students stand around you in a large circle, at least arm-length apart. Tell students that they are going to start out as a seed, and that you are the gardener. You are planting them in the ground, so they all have to lie down and curl up as small as they can on the floor, like a seed.
7. Tell students that for them to grow from seeds to flowers, they are going to need some things. First they will need water. Use the watering can and pretend to pour water onto each of the students. Tell the students they have grown into a seedling or baby plant. They can now sit up on their knees to show they’re no longer a seed.
8. Tell the students that to grow any bigger, they will need plenty of space. Have them stretch out their arms to make sure they can’t touch anyone. Tell the students they also need plenty of air, and have them take a few deep breaths.
9. Tell the students the last thing they will need to grow into a flower is sunlight. Open the blinds and have the students stand up slowly. As they stand up, tell them that they are growing leaves, and have them spread their arms wide to represent the leaves. Then tell the students that they are now flowers, and they need to hold their heads high and smile.
10. Tell the students that since they say they are now full-grown plants, you need to check to make sure they have all the parts of a plant. Ask the students to wiggle their roots (they should wiggle their feet). Next ask them to wiggle their stems (they should shake at the waist). Have them wiggle their leaves (they should shake their hands). And finally, they should wiggle their flowers (they should shake their heads).
11. Tell the students that they will learn more about plants at the Botanical Garden.
Garden Visit: Flora Explorers

In this activity, Docents will lead an educational program at the North Carolina Botanical Garden. Students will be led to different areas in the Display Gardens where they will learn about the needs of plants by exploring the structures of plants and their functions.
Extension Activities: Bringing it Home

The North Carolina Botanical Garden encourages you to continue to teach students to appreciate nature by engaging them in hands-on, inquiry-based learning opportunities in the indoor and outdoor classrooms. The activities and books listed below are a good way to follow-up your garden visit while encouraging students to learn about and appreciate the natural world.

Classroom Activities:
Take your students on a walk through your school grounds to identify roots, stems, leaves, flowers, and seeds.

Grow plants, such as pole beans, in the classroom. Identify the parts of the plants as they grow.

Bring a houseplant into your classroom. Use that to teach students the needs and structures of plants. Have students help care for the plant throughout the year.

Have students plant flowers, such as impatiens, or large seeds, such as Sunflower or Marigold, in pint-size milk containers.

Suggested Books:

Activity Guides for Teachers:


Other Books:


