From the Mountains to the Coast
Exploring North Carolina’s Geographic Regions

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 6 groups of this size at a time.

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 From the Mountains to the Coast educational program align with the following standards:

<table>
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<th>Essential Standards: 3rd Grade Science</th>
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<td>3.L.2.1 Remember the function of the following plant structures as it relates to the survival of plants in their environment: (Roots – absorb nutrients; Stems – provide support; Leaves – synthesize food; Flowers – attract pollinators and produce seeds for reproduction)</td>
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<td>3.L.2.2 Explain how environmental conditions determine how well plants survive and grow.</td>
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<td>3.L.2.3 Summarize the distinct stages of the life cycle of seed plants.</td>
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<td>3.L.2.4 Explain how the basic properties (texture and capacity to hold water) and components (sand, clay and humus) of soil determine the ability of soil to support the growth and survival of many plants.</td>
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Pre-Visit Activity: Digging Deep

In this activity, students will learn the importance of soil to plants, and will get to examine healthy garden soil.

**Materials Needed:**
- Potted plant
- Empty watering can
- Bag of healthy garden soil
- Paper Towels

**Procedure:**
1. Place the houseplant in the center of the room and have the children sit in a circle around it.
2. Ask children if anyone knows what the plant is. Allow them to take a closer look, and touch the plant if needed. They don’t have to know exactly what kind of plant it is, but continue to take guesses until someone identifies it as a plant.
3. Ask children if they can name any other kinds of plants. If they don’t mention any fruits or vegetables, point out that those are plants as well. You can mention apples, carrots, broccoli, or other common foods that they would recognize. You can also mention trees and flowers.
4. Ask the children what people need to live (food, water, light), and then ask them what plants need to live. To give them help, have them gather closer to the plant and look inside to see what the plant is in (soil). Have the students touch the soil and describe it, hopefully someone will discover that the soil is wet (water). Explain to them that the soil holds both food and water for the plant. If no one mentions it, explain to the students that plants also need sunlight to live.
5. Ask children why they think plants need water, soil, and sun. If they don’t guess, tell them plants need water to drink, soil contains food, and the sunshine gives them energy. Point out, again, that people need food, water, and energy as well.
6. Have students return to their desk, and give each group a paper towel.
7. Pour some healthy garden soil on each paper towel. Allow students to explore it, touching it and smelling it if they desire.
8. Ask students what color it is (black). Tell them that the darker the soil, the more nutrients, or “plant food” it has in it.
9. Ask students where the soil gets the most of its nutrients (“plant food”). If no one guesses, tell them it comes from dead plants and leaves. They fall to the ground, and insects, worms, and bacteria convert the plants to nutrients, which can be used by other plants for food. Once the dead plants are converted to nutrients, they turn into black, crumbly soil (like the soil they have in front of them).
10. Save the soil for planting, and compost the paper towels. Make sure students wash their hands immediately following this activity.
Garden Visit: From the Mountains to the Coast

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 how the different environmental factors in North Carolina’s geographic regions affect plant communities.
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. Grow some plants in clay soils, some in sandy soils, and some in rich soils. Give them the same sunlight and water, and compare their growth.

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:


