

WORKSHOP: Engineering an Ecosystem

Norfolk Botanical Garden
Garden in the Schools
Educator Training Workshop

Workshop Activity Title: Engineering an Ecosystem

Objective: The objective of this workshop is for classroom teachers to obtain explore the many uses of natural resources found in Virginia

SOL correlations: SOL 4.8: The student will investigate and identify natural resources and their importance.

Materials: Laminated pictures of natural areas

The activity is creating an environment that contains different natural resources. This activity will be a semester long project that the students continually add new items to.

Classroom Connection:

This will be an activity that the students will create themselves and will incorporate many different subjects such as critical thinking, English and civics.

There was a time when buildings, grocery stores, cars and streets did not exist. The first people that began building these structures did so with the use of natural resources. Without natural resources people would not be able to survive. Unfortunately there are many natural resources that are being depleted from our planet. Conservation and appreciation of our natural resources is key to continue the standard of living we enjoy today.

What are our Natural Resources?

1. **Air:** Required for plants and animals to survive.
2. **Water:** Water available for both plants, and animals to use.
3. **Plants:** Plants used to control erosion, building materials, food.
4. **Animals:** Native animals to Virginia that are available for food and other life needs.
5. **Minerals:** Minerals such as coal, granite, sand, limestone and gravel.
6. **Land:** Includes soil for plants as well as area for animals, people and plants to live.

Students should understand the idea of an ecosystem and what it contains (Living and Non-Living things and their interactions together). Your students will create their own ecosystem containing all of the above natural resources. They will start by choosing what their land will be like.

Rules: Each week they will add one thing to their ecosystem.

Week 1: Students should review what an ecosystem is, what it includes. They will choose what the land is like (which of the 5 regions of VA they would choose) or you can provide them types of land they can choose from. Have the students come up with reasons why they choose that type of land and have them describe what that land

is like. To extend this activity have the students include what types of animals or plants they **expect** to find in this habitat, keeping in mind these are animals that would be found in VA.

Week 2: Students will choose what type of body of water they will have in their environment, river, lake or ocean or a bay. Have the students describe whether it is freshwater or salt water and why the water is important to their environment.

Week 3: Introduce the students to plants that are found in Virginia, trees, shrubs, crops that Virginia produces.

Week 4: Introduce the students to animals that are found in Virginia. Have each student collect information about this animal, its habitat, what it eats, etc. In their information have the students tell whether or not this habitat is suitable for it to survive. (Also you can include Niche information about this animal to incorporate it into the life sciences).

This project can continue through the semester, as it continues incorporate the watershed system, life cycles and other aspects of this habitat you would like to include.