



Playcard Environmental Education Center Pre-visit Information Sheet

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Playcard Pre-visit Information Sheet Seventh Grade: Soil Detectives

7th Ecology/Soils

7-4.1, 7-4.4, 7-4.2 7-4.3, 7-4.5,
7-4.6 Source: 2005 SC Standards

Science Standards Addressed

Explore the ecological connections between biotic and abiotic factors in an ecosystem that combine to create unique plant and animal communities through the slow formation of soils. Compare upland, bottomland hardwood forest, and wetland soils. Demonstrate why soil sediments can be a major pollutant in streams and show the benefits of proper buffer zones. Analyze human impacts on soils and the benefits of soil conservation efforts in South Carolina. Analyze the benefits of solid waste management and best management practices. (reduce, reuse, recycle).

PROGRAM DESCRIPTION:

Students will receive first-hand experiences observing how the biotic (living) community is directly affected by the abiotic (non-living) community. The students, working in teams, will explore the environments of Playcard through the use of sampling equipment to discover why certain plants and animals grow in some areas and not in others by exploring differences in soil types. They will collect and observe a variety of biotic and abiotic components of habitats including soil samples, insects and their larva, vertebrate, invertebrate, fungi, and plant species. The students will learn soil conservation techniques and the importance of topsoil and wetland soil conservation. Time will be shared between field and lab activities.

TOPICS and VOCABULARY (The following topics and words will be used in your program. If possible, please investigate the word's definitions and research the topics.)

Sand (Particle size) Clay (Particle Size) Soil horizons Humus Sedimentary Rock
Silt (Particle size) Duff Percolation Test Kayolinite Parent Material
Wind Erosion Water Erosion Soil leeching Accretion Soil Deposition Xeric Soil Mesic Soil
Hydric Soil Wetland Soil Indicators Topsoil Formation Timeline

Online Resources

[Natural Resources Conservation Service Educator Resource List:](#)

[Virtual Tour of the Field Museum Underground Adventure!](#) Requires Flash Player

Preparing for your Visit

1. Please encourage students to wear clothing appropriate for the weather conditions and be ready to explore nature with all their senses.
2. CHAPERONES: Students should have a 1 adult for every 5 students. This is not a requirement, but does add to the program significantly.

Post Visit Activity

As an assessment, each grade level is encouraged to create a learning, "feedback" project. These projects may be any appropriate feedback method as prescribed by the teacher. Some examples are, letters of what the students learned with drawings and/or photographs of the experience, power point presentations, videos, learning logs, journals, projects (i.e. a leaf collection, copy of presentation, video sharing, testimonials, etc.)

"Nature is the world's best teacher!"