

Standards-Based Lesson Planning Springfield Schools

Standard(s): Science and Technology/Engineering

Strand #2: Life Science (Biology)

Learning Standard #3: Recognize that plants and animals go through predictable life cycles that include birth, growth, development, reproduction, and death.

Learning Standard #11: Describe how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain from producers (plants) to consumers to decomposers.

Standard(s): English Language Arts

Strand: Composition

Learning Standard #19: Writing – Students will write with a clear focus, coherent organization, and sufficient detail.

Strand: Language

Learning Standard #2: Questioning, and contributing – Students will pose questions, listen to the ideas of others, and contribute their own information or ideas in group discussions or interviews in order to acquire new knowledge.

Desired Results

Scope and Sequence

Topic: Changes in Nature: From Seed to Soil

Suggested Time Frame: Two day outdoor environmental education experience at **ECOS (Environmental Center for Our Schools)** in Forest Park, Springfield, MA

Essential Questions

- What stages does the seed go through on its journey to become soil?
- How does a dead tree turn into soil?

Content and Skills (Progress Indicators)

- Using pictures/models, observe the changes in form during the life cycle of a tree.
- Create a food chain using an acorn and pictures. Begin with the sun as the source of energy and end with decomposers.
- Create links that show the relationship of plants and animals in the food chain. Show the direction of the flow of energy.
- Discuss results if various links in the food chain are broken.

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Assessment Evidence

- Students will demonstrate their understanding that plants and animals go through a predictable life cycle through their journal entries.
- Students will demonstrate their understanding of the life cycle of a seed and the decomposition of a dead tree through teacher prompted questions and journal entries.
- While observing the collected animals, students will be able to differentiate between producers and consumers.

Learning Activities

- .Using pictures and models, students will hear a story about the life cycle of a tree. Emphasis will be placed on decomposing logs.
- Students will be shown the proper way of exploring under a log so no harm is done to any of the organisms in the habitat.
- Students will explore under logs in search of organisms that help in the decomposing process.
- Using microscopes, students will observe the many organisms found by the entire class.
- Students will draw, in their journals, at least six organisms they observe under the microscope.
- Using a variety of sentence prompts, students will write some of their observations into their journals.
- Students will share journal entries with the entire class at the end of this *From Seed to Soil* activity.