


### SEEC Student Program Curriculum Alignment with State Standards

Lenawee Intermediate School District Stubnitz Environmental Education Center (SEEC) offers Environmental Science Programs for Lenawee County students. Designed in accordance with Michigan Science Grade Level Content Expectations (GLCEs) for grades K-7, these programs use a variety of inquiry activities, simulations, and hands-on experiences with the natural environment. Environmental education is presented in an interdisciplinary format of age-appropriate programs. For further information about the Michigan K-7 Science GLCEs, please go to the Michigan Department of Education website at [michigan.gov/mde](http://michigan.gov/mde).

### Student Programs for Kindergarten through Fifth Grade

#### Sensing Nature Around Us - Kindergarten

*(offered, for this age group, Spring session only)*

 In this program, students will explore the world around them and experience the natural environment through their senses. Actively learning through inquiry and experience, students will discover the many ways that animals use those same senses, and, in the process, will identify and compare living and non-living things. The nature hike will lead them to use their senses to investigate a variety of habitats and the plants and animals that live there. This program is aligned with kindergarten State Science GLCEs in Inquiry Process and Life Requirements. (1 1/2 hours - 3 hours, to suit your schedule)

- S.IP.00.11 Make purposeful observation of the natural world using the appropriate senses.
- S.IP.00.12 Generate questions based on observations.
- S.IP.00.14 Manipulate simple tools (for example: hand lens, pencils, balances, non-standard objects for measurement) that aid observation and data collection.
- L.OL.00.11 Identify that living things have basic needs.
- L.OL.00.12 Identify and compare living and non-living things.

#### Life Cycles in the Animal World - First or Second Grade

Aligned with the new State Science Grade Level Content Expectations for first grade in Life Requirements and Life Cycles, this program will lead students to explore animals' habitat needs for food, water, shelter, and space. Examining artifacts and live animals, they will learn about Michigan animals' life cycle stages and about the shelters that they build for their young. Several active learning experiences about the life cycles of mammals, amphibians, reptiles and insects will bring greater understanding of animal babies and the changes that they go through on their way to becoming adults. On the Habitrek Hike, students will observe animal nests and shelters while walking through several kinds of habitats. (3.25 hours)

- S.IP.01.11 Make purposeful observation of the natural world using the appropriate senses.
- S.IP.01.12 Generate questions based on observations.
- S.IP.01.14 Manipulate simple tools (for example: hand lens, pencils, rulers, thermometers, rain gauges, balances, non-standard objects for measurement) that aid observation and data collection.
- L.OL.01.13 Identify the needs of animals.
- L.OL.01.21 Describe the life cycle of animals including the following stages: egg, young, adult; egg, larva, pupa, adult.
- L.HE.01.11 Identify characteristics of animals (for example body coverings, beak shape, number of legs, body parts) that are passed on from parents to young.
- L.HE.01.12 Classify young animals based on characteristics that are passed on from parents (for example dogs/puppies, cats/kittens, cows/calves, chickens/chicks).



## Sunlight to Soil: The Life Cycle of Plants - Second or First Grade



Plant life cycles and seed dispersal are the focus of this program, which is aligned with the new State Science second grade GLCEs in Life Requirements and Life Cycles, as well as the third grade expectation describing the function of plant parts. Students will examine investigate various methods of seed dispersal, play a simulation game about the life requirements of plants, and investigate the life cycle of plants through seed dissection. The Plants and Seeds Discovery hike will allow students to observe seed dispersal in action, and to discover plants in various stages of life cycle and growth in the natural environment. (3.25 hours)

- S.IP.02.11 Make purposeful observation of the natural world using the appropriate senses.
- S.IP.02.12 Generate questions based on observations.
- S.IP.02.14 Manipulate simple tools (ruler, meter stick, measuring cups, hand lens, thermometer, balance) that aid observation and data collection.
- S.IP.02.15 Make accurate measurements with appropriate units (meter, centimeter) for the measurement tool.
- L.OL.02.14 Identify the needs of plants.
- L.OL.02.22 Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.
- L.OL.03.31 Describe the function of the following plant parts: flower, stem, root and leaf.
- L.EV.03.11 Relate characteristics and functions of observable parts in a variety of plants that allow them to live in their environment (for example: leaf shape, thorns, odor, color).

## Investigations in Zoology - Third Grade

Zoology is the study and classification of the animal kingdom according to the unique characteristics of each group. This program is aligned with the new State Science third grade GLCEs in Structures and Functions, Classification, and Environmental Adaption. Students will participate in a variety of activities to identify and compare animals' structures and their functions to see how they live in their environment. Through participation in outdoor simulations, group activities, a rotten log investigation, and a Wildlife Detective nature walk, students will become zoologists as they gain an understanding of classification in the animal world. (3.25 hours)



- S.IP.03.11 Make purposeful observation of the natural world using the appropriate senses.
- S.IP.03.12 Generate questions based on observations.
- S.IP.03.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer).
- S.IP.03.15 Make accurate measurements with appropriate units (centimeters, meters, Celsius, grams, seconds, minutes) for the measurement tool.
- S.IP.03.16 Construct simple charts and graphs from data and observations.
- L.OL.03.32 Identify and compare structures in animals used for controlling body temperature, support, movement, food-getting, and protection (for example: fur, wings, teeth, claws).
- L.OL.03.42 Classify animals on the basis of observable physical characteristics (backbone, skin, shell, limbs, scales).
- L.EV.03.12 Relate characteristics and functions of observable body parts to the ability of animals to live in their environment (for example: sharp teeth, claws, color, body covers).

## Adaptation and Survival in a Changing World - Fourth Grade

Animals' adaptations help them to live in a world where each species is a part of the predation food web. This program is aligned with the new State Science GLCEs for fourth grade in Survival and Interactions. Through participation in a predator-prey simulation, an investigation of structural adaptations in skulls to look for clues as to function, and explorations of adaptations in some very specialized animals, students will experience the challenge of survival in the natural world. On the Survival Safari Trail Hike, students will observe how animals look, behave, and live, discovering their secrets to survival. (3.25 hours)



- S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.
- S.IP.04.12 Generate questions based on observations.
- S.IP.04.16 Construct simple charts and graphs from data and observations.
- L.EV.04.21 Identify individual differences (for example: color, leg length, size, wing size) in organisms of the same kind.
- L.EV.04.22 Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.
- L.EC.04.11 Identify organisms as part of a food chain or food web.
- L.EC.04.21 Explain how environmental changes can produce a change in the food web.

## Exploring Wetlands and Watersheds Through Inquiry - Fifth Grade

Using the new State Science Processes GLCEs for grades 5-7, as well as the Interactions of Organisms expectation from the 6<sup>th</sup> grade GLCEs, students will participate in a variety of indoor and outdoor activities using Inquiry Process skills to learn about wetland ecosystems. Through inquiry learning activities and an active simulation, students will collect data, investigate wetland ecosystems, and see the connections and interactions among wetland plants and animals. On the Walking-Our-Watershed (WOW) Trail Hike, students will discover the unique beauty of a local wetland and learn how it contributes to the Raisin River Watershed. (3.25 hours)



- S.IP.05.11 Generate scientific questions based on observations, investigations, and research.
- S.IP.05.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens) appropriate to scientific investigations.
- S.IP.05.14 Use metric measurement devices in an investigation.
- S.IP.05.15 Construct charts and graphs from data and observations.
- S.IP.05.16 Identify patterns in data.
- L.EV.05.11 Explain how behavioral characteristics (adaptation, instinct, learning, habit) of animals help them to survive in their environment.
- L.EV.05.12 Describe the physical characteristics (traits) of organisms that help them survive in their environment.

The Stubnitz Environmental Education Center Environmental Science Programs run Tuesday through Friday from Tuesday, Sept. 16, 2008 through Friday, May 29, 2009. Programs are scheduled from 10:00 a.m.-1:15 p.m. To register for sessions during the 2008-2009 school year, call Pam Bunch at SEEC at 265-6691.

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+++ Be sure to visit the SEEC Website: [seec.lisd.us](http://seec.lisd.us) +++