Unit II: Organisms and Insects

Content Area: **Science**
Course(s): **Science 1**
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Enduring Understandings

The behavior of organisms is influenced by internal cues (such as hunger) and by external cues (such as change in the environment).

Organisms reproduce, develop, have predictable life cycles, and pass on some traits to their offspring.

Organisms can survive only in environments in which their needs can be met.

Sometimes differences between organisms of the same kind give advantages in surviving and reproducing in different environments.

Essential Understandings

In what ways do organisms interact within ecosystems?

In what ways are organisms of the same kind different from each other? How does this help them reproduce and survive?

How do organisms change as they go through their life cycle?

What are some similarities and differences in the larvae, pupae, and adults of insects that go through metamorphosis (complete or incomplete)?

What are the behaviors of insects at different stages of their life cycle?

How do specific structures aid in the survival of insects throughout their life cycle?

How are insect life cycles related to the life cycles of other living organisms?

Content

Additional Resources

- Annenberg Media's Teachers' Resources offer short video courses covering essential science content for K-6 teachers.
- Harvard-Smithsonian Center for Astrophysics' Digital Video Library provides short video clips of a workshop covering this content.

http://www.hsdvl.org/ video.php?record_serial=1691

Skills

Develop a curiosity and interest in insects and a respect for them as living things.

Experience some of the great diversity of forms in the animal kingdom.

Become familiar with some of the life sequences that different types of insects exhibit (simple and complete metamorphosis).

Observe the similarities and differences in the larvae, pupae, and adults of insects that go through complete metamorphosis.

Observe the behaviors of insects at different stages of their life cycle.

Provide for the needs of insects (air, water, food, and space).

Acquire the vocabulary associated with insect life.

Group living and nonliving things according to the characteristics that they share.

Compare and contrast structures that have similar functions in various organisms, and explain how those functions may be carried out by structures that have different physical appearances.

Describe the requirements for the care of insects related to meeting their energy needs.

Compare how different insects obtain food and water.

Describe the ways in which organisms interact with each other and their habitats in order to meet basic needs.

Describe and record changes in mealworm structure and behavior over time.

Observe mealworm larvae, pupae, and adults over time.

ways that humans protect habitats and/or improve conditions for the growth of the plants and animals that live there, or ways that humans might harm habitats.

Observe the sequence of changes that bugs go through as they mature into adults.

Observe, describe, and communicate the structures, patterns, and behaviors of insects.

Compare the physical characteristics of the different stages of the life cycle of an individual organism, and compare the characteristics of life stages among species.

Record the observable characteristics of insects to determine the similarities and differences between parents and their offspring.

Standards

SCI.1	Structure, Function, and Information Processing
SCI.1-LS1-1	Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
SCI.1-LS1-2	Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
SCI.1-LS3-1	Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.