Grade 3 - Unit 1 - Life Cycles

Content Area: **Science**
Course(s): **Science 5, Generic Course**
Time Period: **Marking Period 1**
Length: **6-8 weeks**
Status: **Published**

Established Goals/Standards

SCI.3-4.5.1.4.A.1	Demonstrate understanding of the interrelationships among fundamental concepts in the physical, life, and Earth systems sciences.
SCI.3-4.5.1.4.A.2	Use outcomes of investigations to build and refine questions, models, and explanations.
SCI.3-4.5.1.4.A.3	Use scientific facts, measurements, observations, and patterns in nature to build and critique scientific arguments.
SCI.3-4.5.1.4.A.b	Connections developed between fundamental concepts are used to explain, interpret, build, and refine explanations, models, and theories.
SCI.3-4.5.1.4.A.c	Outcomes of investigations are used to build and refine questions, models, and explanations.
SCI.3-4.5.1.4.B.1	Design and follow simple plans using systematic observations to explore questions and predictions.
SCI.3-4.5.1.4.B.b	Tools and technology are used to gather, analyze, and communicate results.
SCI.3-4.5.1.4.C.2	Revise predictions or explanations on the basis of learning new information.
SCI.3-4.5.1.4.C.b	Revisions of predictions and explanations occur when new arguments emerge that account more completely for available evidence.
SCI.3-4.5.1.4.D.1	Actively participate in discussions about student data, questions, and understandings.
SCI.3-4.5.1.4.D.2	Work collaboratively to pose, refine, and evaluate questions, investigations, models, and theories.
SCI.3-4.5.1.4.D.4	Handle and treat organisms humanely, responsibly, and ethically.
SCI.3-4.5.1.4.D.b	In order to determine which arguments and explanations are most persuasive, communities of learners work collaboratively to pose, refine, and evaluate questions, investigations, models, and theories (e.g., scientific argumentation and representation).
SCI.3-4.5.1.4.D.d	Organisms are treated humanely, responsibly, and ethically.
SCI.3-4.5.3.4.A.b	Essential functions required for the well-being of an organism are carried out by specialized structures in plants and animals.
SCI.3-4.5.3.4.B.1	Identify sources of energy (food) in a variety of settings (farm, zoo, ocean, forest).
SCI.3-4.5.3.4.B.a	Almost all energy (food) and matter can be traced to the Sun.
SCI.3-4.5.3.4.C.1	Predict the biotic and abiotic characteristics of an unfamiliar organism's habitat.
SCI.3-4.5.3.4.C.a	Organisms can only survive in environments in which their needs are met. Within ecosystems, organisms interact with and are dependent on their physical and living environment.
SCI.3-4.5.3.4.D.1	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.
SCI.3-4.5.3.4.D.a	Plants and animals have life cycles (they begin life, develop into adults, reproduce, and eventually die). The characteristics of each stage of life vary by species.
SCI.3-4.5.3.4.E.1	Model an adaptation to a species that would increase its chances of survival, should the environment become wetter, dryer, warmer, or colder over time.

SCI.3-4.5.3.4.E.a	Individuals of the same species may differ in their characteristics, and sometimes these differences give individuals an advantage in surviving and reproducing in different environments.

Essential Questions

- How do flowering plants make seeds?
- How do plants change during their life cycles?
- How do plants with cones make and protect seeds?
- How do species grow and change to ensure they live to adulthood?
- What is a life cycle
- What is the first stage in an Animal's life cycle?
- What is the first stage in the life cycle of a flowering plant?

Enduring Understanding

- A life cycle is the ordered stages that occur in a plant's or animals lifetime. Living things go through predictable life cycles, which include growth, development, reproduction, and death. Life cycles differ from one species to the next.
- A seed is the first stage in the life cycle of a seed plant. Seeds have properties that enable them to survive and develop into new plants.
- During their growth and development into mature plants, seed plants undergo predictable changes and respond to changes in their environment.
- Some young animals and adult animals of the same species resemble each other. Other young animals look very different from the adults they will eventually become.
- The egg is the first stage in the life cycle of an animal. Most animals hatch from eggs laid by a female. Some animals develop from fertilized eggs inside the female's body and are born live.
- The seed of a conifer is formed on the scale of a cone. The cone is a structure that protects the seed.
- The seed of a flowering plant is formed in the flower, which has three main parts. Pollination must take place to produce a seed.

Content

The students will be able to:

- define life cycle

- describe behaviors that are learned and passed on

- label the parts of an egg

- predict, observe, measure, and record the changes a mealworm grows through during its complete metamorphosis

- compare and contrast the stages of complete and incomplete metamorphosis

- research animals whose parents do not give them care after birth

- observe, infer, and record the parts of a seed

- describe the functions of the parts of a seed

- observe, make hypotheses, and investigate the parts of a flower

- describe the process of pollination

- explain the life cycle of a flowering plant

- define conifer

- explain the life cycle of a conifer

- describe how plants change, or adapt, to different conditions

Assessment

Resources

- Discovery Works textbook
- ActivBoard flipcharts
- Labs:
    - The changing mealworm
    - Inside an egg
    - Inside a lima bean
    - It's a flower! It's a factory!
    - Cone Sweet Cone
    - Watch them grow
- Unitedstreaming video clips