

Division of Outdoor Experiences

Life Cycles

Grade Level: 3

Length of Program: 4 - ten-minute segments (A, B, C, D)

Setting: Asynchronous Remote Learning

State Standards:

3.LS.1: Offspring resemble their parents and each other.

3.LS.2: Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.

3.LS.3: Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.

Theme:

Plants and animals have life cycles that are part of their adaptations for survival in their natural ecosystems.

Objectives

At the end of the program, students will be able to:

- Understand how living things grow and change over time.
- Learn how different types of animals and plants have different life cycles.
- Comprehend that all living things grow, reproduce, and start the cycle over.

Vocabulary (key concept words only)

- Life cycle - the series of changes in the life of an organism including reproduction.
- Metamorphosis - the process of transformation from an immature form to an adult form in two or more distinct stages.
- Reproduction - the production of offspring by a sexual or asexual process.
- Amphibian - a cold-blooded vertebrate animal (frogs, toads, newts, and salamanders). They are distinguished by having an aquatic gill-breathing larval stage followed (typically) by a terrestrial lung-breathing adult stage.
- Reptile - a cold-blooded vertebrate (snakes, turtles, and lizards). They are distinguished by having a dry scaly skin and typically laying soft-shelled eggs on land.
- Insect - a small invertebrate that has six legs, three body parts, compound eyes, antennae, and generally one or two pairs of wings.
- Bird - a warm-blooded egg-laying vertebrate distinguished by the possession of feathers, wings, and a beak.
- Mammal - a warm-blooded vertebrate animal distinguished by the possession of hair or fur, the secretion of milk by females for the nourishment of the young, and the birth of live young.

- Egg - an object laid by a female bird, reptile, fish, or invertebrate, usually containing a developing embryo. The eggs of birds are enclosed in a chalky shell, while those of reptiles are in a leathery membrane.
- Larva - the active immature form of an insect or amphibian that differs from the adult, and respectively called a caterpillar or tadpole.
- Pupa - an insect in its inactive immature form between larva and adult, also known as a chrysalis.
- Adult – a fully developed animal that has reached sexual maturity.
- Adaptations - a change or the process of change by which an organism or species becomes better suited to its environment.
- Traits - a distinguishing quality or characteristic
- Survival - continuing to live, typically in spite of an accident, ordeal, or difficult circumstances.
- Seedling - a young plant grown from seed.
- Germinate – the beginning of growth after a period of dormancy.
- Pollinate – the movement of pollen from one flower to another allowing fertilization.

Materials needed:

- Blank paper
- Colored pencils
- Books available to students with different types of life cycles (amphibians, insects, reptiles, birds, mammals).
 - *My Awesome Summer* by P. Mantis, by Paul Meisel
 - *The Buzz on Insects*, by Gina Shaw
 - *From Tadpole to Frog*, by Wendy Pfeffer
 - *The Life Cycle of an Owl*, by Jill Bailey
 - *Box Turtles*, by Lynn M. Stone
 - *About Mammals: A Guide for Children*, by Cathryn Sill

Pre-activity:

- Have students read at least one life cycle book prior to presentation.

Watch Video A

- 1) Introduction
 - a) Introduces the term lifecycle and different types of life cycles.
 - b) Introduces the term metamorphosis. Insect as example
 - c) **Enrichment Activity:** students will draw a human life cycle and discuss what group of animals humans are in (mammals).

Watch Video B

- 2) Compare reptile and amphibian life cycles
 - a) Highlights live amphibian (e.g. toad) - metamorphosis from egg to tadpole to adult
 - b) Highlights live reptile (e.g. turtle) - young looks like tiny adult
 - c) **Enrichment Activity:** Caterpillar to Butterfly time-lapse from BBC - <https://www.youtube.com/watch?v=bb1ysx40Wdo>
 - d) **Enrichment Activity:** From egg to frog time-lapse - <https://www.youtube.com/watch?v=gmlaclb3K2o>

Watch Video C

- 3) Compare mammal and bird life cycles
 - a) Highlights pelts, artifacts or a live mammal - live birth
 - b) Highlights artifacts or live bird - Hatch from egg
 - c) **Enrichment Activity:** Teacher can attend a class at <https://grownextgen.org/events/chickquest>. After attending the class, the teacher will be provided with all equipment necessary to grow chicks in the classroom.

Watch Video D

- 4) If time permits, include plants in the life cycle lesson.
 - a) Plants grow from seeds
 - b) Plants need pollination from an outside source to continue the lifecycle.
 - c) **Enrichment Activity:** After the virtual lesson, grow beans in the classroom to discover how plants grow from a seed.
 - d) **Enrichment Activity:** After the virtual lesson, grow butterflies in the classroom. Get all supplies from: https://www.carolina.com/butterfly-kits/butterflies-in-the-classroom-kits/FAM_144014.pr