



# Natural History Report

## Teacher Lesson Plan

### Animal Life Cycles Post-Visit Lesson

**Duration:** 40-60 minutes

**Minnesota State  
Science Standard**

**Correlations:**

3.4.3.2.1.

**Wisconsin State  
Science Standard**

**Correlations:**

C 4.1, C 4.2, F 4.3

**Supplies:**

- 1) Animal Fact Sheets (Appendix I) or books about different animals
- 2) Copies of Life History Booklet (Appendix II) for each student – Print double-sided for a booklet

**Overview**

Students will pick an animal and create a booklet about the animal's natural history, including its life cycle.

**Objectives**

- 1) Students will be able to describe the full life cycle of a chosen animal.
- 2) Students will be able to explain the natural history of a chosen animal.

**Background**

Animals all have different life cycles and different natural histories. Some animals are born looking like their parents and receive full parental care, some receive partial parental care, and some receive no parental care. Animals can be born in different types of eggs or born live. Some will undergo metamorphosis and completely change their form or some will simply shed their skin in order to grow. Animals can live for one day or over 100 years and be found in all different habitats all over the world.

# Natural History Report

## Procedure

- 1) Review the different life cycles animals have by asking students to name the different life cycles (metamorphosis, complete metamorphosis, incomplete metamorphosis, no metamorphosis) and different ways animals are born (live, eggs). Tell them that studying all the different information about an animal (its life cycle, how it's born, where it lives, etc.) is called the animal's natural history.
- 2) Tell the students they will get to pick an animal to learn more about that animal's natural history. You can either let students pick an animal from one of the included fact sheets (Appendix I) or let them choose their favorite animal and do research on their own.
- 3) Explain to the students they will be using the information they find about their animal to fill out a booklet. They will need to find the answers to the topics in the booklet and then draw a picture describing what they wrote about on each page.

## Assessment

- 1) Once the students are done you can have a "book show" where the students can each stand up, show off their books, and share one or two interesting facts about their animal. (If you would like to send us copies of the students books we would love to see them!)

## Important Terms

**Adaptation**- Changes made by living things in response to their environment (where they live).

**Amphibian**- A cold-blooded (ectotherm), vertebrate animal that lays many soft, jelly-like eggs which allow for water and air to enter. Young are born with gills and metamorphose into an adult animal that can breathe through their skin. This group includes frogs, toads, salamanders and newts.

**Bird**- A warm-blooded (endotherm), vertebrate animal that lays hard-shelled eggs, is covered in feathers, has wings, and breathes through lungs. This group includes raptors, penguins, water fowl and songbirds.

**Complete Metamorphosis**- Type of metamorphosis found in insects. The insect goes through 4 stages of growth: Egg-Larva-Pupa-Adult. Insects that undergo complete metamorphosis include butterflies, ants, bees, and mosquitoes.

**Ectotherm (cold-blooded)**- Animals that rely on outside temperature for their body heat. They may raise their body temperature by moving to a sunny spot or lower their body temperature by moving to a cool spot.

**Endotherm (warm-blooded)**- Animals that generate their own body heat. They are able to raise their body temperature by shivering or eating to increase energy or lower their body temperature by sweating or panting.

**Fish**- A cold-blooded (ectotherm), aquatic, vertebrate animal that lays many soft-sided, jelly-like eggs which allow water to enter. They are covered in scales, breathe through gills and have fins. This group includes, sturgeon, lamprey, and carp.

# Natural History Report

**Gills-** Respiratory organ of fish and some amphibians where oxygen is extracted from water flowing over their gills.

**Larva-** The active form of an immature insect that is born not looking like its' adult form. Found in complete metamorphosis.

**Life cycle-** The changes an organism goes through to progress from one life stage to the next.

**Incomplete Metamorphosis** - Type of metamorphosis found in insects. The insect goes through 3 stages of growth: Egg-Nymph-Adult. Insects that undergo incomplete metamorphosis include grasshoppers, cicadas, cockroaches, and lice.

**Insect-** An invertebrate animal with 6 legs and an exoskeleton. They breathe through holes in their exoskeleton and reproduce by laying eggs which then undergo either complete or incomplete metamorphosis until they reach adulthood.

**Invertebrate-** An animal without a backbone.

**Keratin-** A hard protein found in hair, fingernails, shells. The outer layer of skin is also made from keratin.

**Life cycle-** The changes an organism goes through to progress from one life stage to the next.

**Mammal-** A warm-blooded (endotherm), vertebrate animal with fur/hair that gives birth to live young, feeds their young milk, and breathes through lungs. This group includes dogs, cats, bears and cows.

**Metamorphosis-** The process of transferring from one life stage to the next (e.g. egg to tadpole to froglet to frog). This process is found in insects and amphibians.

**Neotenic-** Retaining larval features into adulthood. An adult salamander with gills is considered neotenic.

**Nymph-** An immature insect that looks similar to its' adult form. In order to grow it molts its' exoskeleton and has several growth stages called instars. If the adult form has wings, the nymph will grow the wings gradually with each instar. Found in incomplete metamorphosis.

**Pupa-** An immature insect in its' inactive form between the larval and adult states, e.g. a chrysalis. Found in complete metamorphosis.

**Reptile-** A cold-blooded (ectotherm), vertebrate animal that is covered in scales, lays soft shelled eggs, and breathes through lungs. This group includes turtles, snakes, lizards and crocodilians.

**Vertebrate-** An animal with a backbone.