

Life Cycles Field Trip Package



Description

Students will learn about different animal life cycles here at the zoo, such as mammals, birds, amphibians, and insects. Students will explore concepts such as the differences between metamorphic and non-metamorphic life cycles and how these relate to similarities and differences in offspring versus their parents. In addition, students will discover how climate change can affect the life cycle of animals across the world in several ways.

This information package can help you summarize ideas to help you get the most from your trip to the zoo.

Links to the New BC Curriculum

Grade 2

- Living things have life cycles adapted to their environment (Big Ideas)
- Metamorphic and non-metamorphic life cycles of different organisms (Content)
- Similarities and differences between offspring and parents (Content)
- Demonstrate curiosity and a sense of wonder about the world (Curricular competencies)
- Observe objects and events in familiar contexts (Curricular competencies)
- Ask questions about familiar objects and events (Curricular competencies)
- Compare observations with predictions through discussion (Curricular competencies)

Preparing for the Program

Location: In the primary years, this will be many students' first visit to the zoo, and feeling prepared will help ease any anxiety some younger students may have about visiting a new place. These are some things that teachers should review with their students prior to and upon arrival at the zoo.

- Where the zoo is in relation to your school.
- Duration of the trip to the zoo and mode of transportation to the zoo.
- Designated meeting place set out at the zoo in case any adult or student gets separated from the group, and point this out on the map upon arrival.

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Vocabulary: Before attending the zoo, students should be aware of the following words as they may be used during the program.

- **Carnivore:** an animal that only eats other animals.
- **Conservation:** the protection of plants and animals who are facing threats in the wild.
- **Egg mass:** a group of eggs laid at one time; often held together by a sticky substance.
- **Exoskeleton:** a rigid body covering that acts to protect the animal and give it form. Often found in invertebrates, such as insects and arachnids.
- **Fledgling:** the life stage of a bird in which it is ready to leave the nest.
- **Froglet:** the name for a frog when it is going through metamorphosis; characterized by looking like both a tadpole and an adult frog.
- **Habitat:** where an animal lives to find food, water, shelter, and space.
- **Herbivore:** an animal that only eats plants.
- **Larval:** the name for a metamorphic insect when it is in its first life stage.
- **Life cycle:** the sequence of stages an animal, or plant, goes through from birth to death.
- **Life span:** how long it takes for an animal to complete its life cycle.
- **Metamorphosis:** the process of transformation from an immature form to an adult form in two or more distinct stages.
- **Omnivore:** an animal that eats both plants and animals.

Dressing for the weather: There are not many indoor or covered areas at the zoo, so it is important to dress for the weather.

- If raining: waterproof shoes and jackets are necessary. Umbrellas are optional.
- If sunny: sunscreen, hats, and water bottles are necessary.

Safety Guidelines: Here at the zoo, we want you to have fun, but our priority is the safety of our visitors and animals. These guidelines will help keep you and the animals safe.

- Do not feed the animals.
- Do not touch the animals.
- Respect all barriers and fences.

Information Guide

Different types of animals can be found all over the world. Because of the variety of different habitats and climates on the planet, animals in different areas of the world cannot be exactly the same and must look and behave differently to survive. The type of life style that would work in the Arctic, where it is cold with not many plants, would not work for an animal living on the savanna of Africa, where it is warm with a variety of different plants. Animals all over the world have adapted differently to suit their habitat. This means they have also adapted a certain life cycle to suit their habitat.

An animal's life cycle is the sequence of events they go through from birth to death. Each of these events, or changes, is called a life stage. As humans, we go through a life cycle too, with different life stages. First, we start as a baby, then we become a toddler, then a child, then a teenager, then an adult, and finally a senior. The length of these stages can be different for each animal – some animals grow quickly and spend most of their life as adults while some spend most of their life in their young life stages and only spend a short amount of time as adults.

Sometimes the length of these stages is determined by the environment. Frogs start out as tadpoles, but they cannot stay in this life stage for long because the water they live in may dry up in the late summer. For sockeye salmon, they spend most of their life as non-breeding adults out in the ocean. Their last life stage as breeding adults, takes place in freshwater streams. Since they are not adapted for freshwater, they die due to the environment, and are in their final adult life stage for a few weeks at most.

Some animals have a unique life cycle that involves a process called metamorphosis. This means they have a life stage where their body transitions from being a young animal to an adult. Sometimes this change involves the shape of their body, where they live, or what they eat. Because they go through this big change, young animals that have a metamorphic life cycle do not look anything like their parents.

Quite a few animals on the planet have metamorphic life cycles: jellyfish, ants, butterflies, beetles, bees, moths, frogs, salamanders, and some fish such as lampreys. All of these animals have slightly different life cycles and life stages depending on their environment, but all of them go through metamorphosis at some point in their life, changing from one type of body shape and behavior to another. Mentioned earlier in this guide were frogs; female adult frogs lay eggs in the spring which eventually hatch into tadpoles. These tadpoles live in the water; therefore, they have gills and tails, and eat aquatic plants. Once they grow large enough, they go through the metamorphic stage of their life cycle where they become froglets. In this stage, the tadpoles begin to develop legs and the tail shortens. Eventually they look like an adult frog, who lives mainly on land, breathes with lungs, and feeds on insects.

Many animals on the planet have non-metamorphic life cycles, meaning they do not go through a life stage where their body goes through a large change. This isn't to say young, non-metamorphic animals don't change, it just isn't as dramatic or fast as with metamorphic animals. In non-metamorphic species, the parents and offspring will look

similar, and it can be easy to tell they are related. However, there are usually some things that are missing on the offspring that the parents have, such as a rhino mom having a horn while her calf does not or how a baby duck's feathers are a different color and feel than their parents.

Non-metamorphic animal life cycles have different life stages as they develop. As the animals go through these life stages, they will slowly begin to develop to look more like their parents. For example, when lions are born, they are called cubs and the males have no mane. As they move to their next life stage as sub-adults between the age of 1-3 years old, the males slowly begin to grow the mane, and will continue to do so even when they become adults.

Unfortunately, the changes happening to our planet are having an effect on the animals' life cycles. Because of rising temperatures, ponds are drying up too fast to give tadpoles the chance to go through metamorphosis, birds are having to lay their eggs earlier in the year, and butterfly caterpillars are struggling to find food at the right time of the year due to shifting plant growth.

However, we can help these animals survive by doing our part. Some ways that we can help is to always Reduce, Reuse, and Recycle. By making sure that we always follow the 3R's, it can have a large impact on animals all over the world.