

Classroom Connections

Third Grade – Life Cycles



Thank you for choosing the Oregon Zoo for your field trip destination. We look forward to seeing you and hope you enjoy your visit.

This guide explores the concept of life cycles and is designed to help you maximize your students' education experience during and following their zoo field trip.

The activities address the following Essential and Guiding questions:

- How does understanding an animal's life cycle help to protect it?
 - In what ways do animals change throughout their life?
 - Why is understanding an animal's life cycle important?
 - What happens to animals when their needs are not met during a stage of development?
 - What actions can people take to protect animals at different stages of their life cycle?

The Oregon Zoo hopes that as a result of this program students will be able to:

- Identify the four stages of all life cycles as birth, growth, reproduction, and death.
- Describe why understanding an animal's life cycle is crucial to protecting it.
- Name one action they and their families can take to help protect animals throughout their life cycles.

The program is correlated to the following academic standards:

Next Generation Science Standards:

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

Oregon Social Science Standards:

3.20. Identify how people or other living things might be affected by an event, issue, or problem.

Background for Teachers:

Although all animals have in common a life cycle made up of four basic stages (birth, growth, reproduction and death), each animal's life cycle is uniquely its own. Some animals hatch from an egg while others are born live. Some will look like their parents, others will not. Some will receive full parental care, some partial parental care and some no parental care. Some animals undergo metamorphosis and completely change their form while others will grow by shedding their skin.

It is important to understand that an animal's food, water, shelter, and space requirements will change as it moves through each stage of its life cycle. Take for example the Pacific tree frog. As a tadpole it requires water to survive. In its adult form, the frog will seek out holes and burrows on land to keep it safe from predators. Without both land and water, this animal will not survive. Recently, scientists have

noticed a decrease in the number of amphibians, including tree frogs. The destruction of wetland habitat is one of the reasons for this decline.

Protecting animals is important because each plays an important role in its ecosystem. Tree frogs, for example, help control insect populations. They also provide a valuable food source for a variety of birds and snakes.

Although habitat destruction is a big problem, our small actions can make a difference. Take the time to reduce, reuse and recycle materials; ride your bike or walk instead of asking for a ride; participate in re-planting project; or create wildlife habitat on your school grounds.

At the Zoo Activity

Download and print the student version of *Life Cycles*: www.oregonzoo.org/fieldtrips

In this activity, students use the clues below to find an animal that matches the life cycle described.

Animal 1

I am an insect that lives in burrows and under rocks in the Sonoran desert. I hatch from an egg and look like a smaller version of my parents when I hatch. Unlike many arthropods (animals with a hard exoskeleton), my mother will care for me when I am young. I can live to be five years old. I am a **Sonoran desert centipede**.

Animal 2

I am a reptile that lives in the African rain forest. I began my life in a leathery egg buried in a mound of rotting plants. The heat from the rotting plants helps to keep the eggs warm for the 95 days it will take for them to hatch. I look like a smaller version of my parents when I hatch. Neither of my parents will help raise me. I can live 50 years or more. I am a **slender-snouted crocodile**.

Animal 3

I am an amphibian that also lives in the African rain forest. I am one of up to 3,000 eggs laid by my mom in shallow water. I don't look anything like my parents when I enter the world. I spend my childhood in water and breathe using gills. Neither of my parents helps raise me. I will undergo metamorphosis as I transition from childhood to adulthood. As an adult I will have legs and can live on land. I can live to be 7 to 9 years of age. I am an **African burrowing bullfrog**.

Animal 4

I am a small rodent that lives in an underground burrow in the African savannah. I am one of up to 30 born live to the queen of the colony. I look like a smaller version of my mom. During childhood I will be cared for by a non-working member of my colony. I will only have babies if I become queen one day. I can live to be 15 to 20 years of age. I am a **naked mole rat**.

Animal 5

I live in the forests of Asia. I am born live, and look just like a tiny version of my parents. By tiny, I mean about 200 pounds! I stay close to my mom when I'm little, but everyone in my herd helps take care of me. I usually live for 46-56 years. I am an **Asian elephant**.

Animal 6

I am a bird that lives along the west coasts of Peru and Chile on the Pacific Ocean. I am one of two eggs laid in a burrow dug in the soft ground, which is made up of guano (poop!). I hatch after about six weeks of incubation and am covered in fluffy down feathers. I will have the same shape as my parents when I'm born, and they'll take care of me in the nest until my outer layer of waterproof feathers has grown in. I can live 15 to 20 years. I am a **Humboldt penguin**.

Animal 7

I am a fish that lives in the Pacific Northwest. I am one of many eggs my mom lays in a nest (redd) on the bottom of a gravelly stream. I look like a smaller version of my parents when I hatch. Neither of my parents helps raise me. I spend the first year of my life in fresh water before migrating out to the sea. I will return to my home stream when I am ready to lay my own eggs. I can live 3 to 8 years. I am a **salmon**.

Animal 8

I am a bird that also lives in the Pacific Northwest. I am one of two eggs laid by my mom in a nest on top of a tall tree. I will look like a smaller fluffier version of my parents when I hatch from my egg. Both of my parents will help care for me until I fledge from the nest. I can live to be 20 years of age. I am a **bald eagle**.

Post-Field Trip Activity

- Review with students the information they collected during their field trip.
- Have students make a poster that illustrates the life cycle of one of the animals they learned about during their field trip. Include on the poster the habitat needs of their animal at each stage of life.
- Have students present their posters to the class. Follow presentations with a class discussion.

Q: What did all of the life cycles have in common?

A: All animals have in common a life cycle made up of four basic stages – birth, growth, reproduction and death.

Q: What did you notice about the habitat requirements at each stage of the animal's life cycle? Did they change or stay the same?

- Explain that an animal's food, water, shelter and space requirements will change as it moves through each stage of life.

Q: Why would it be important for a scientist to know the needs of an animal at each stage of its life cycle?

A: So we can make sure the food, water, shelter and space needs of an animal is being met.

Q: What will happen to the animal if its needs are not being met?

A: It will die.

Q: Why is protecting wildlife important?

A: Each animal plays an important role in its ecosystem. Frogs, for example help control insect populations. Without frogs, insect populations will increase causing a disruption in the natural balance of the ecosystem.

- Brainstorm changes to the environment that might affect the life cycle of different animals. (Examples include use of pesticides, draining of wetlands, invasive species, poaching)
- Brainstorm a list of actions students can take to help protect wildlife.
- Review main points
 - All animals have in common a life cycle made up of four basic stages – birth, growth, reproduction and death.
 - An animal's habitat requirements change at each stage of life
 - Protecting animals at each stage is important because each plays a specific role in its ecosystem.