

Animal Adaptations

Zoological Society of Milwaukee
Field Trip Packet: 3rd – 5th Grade

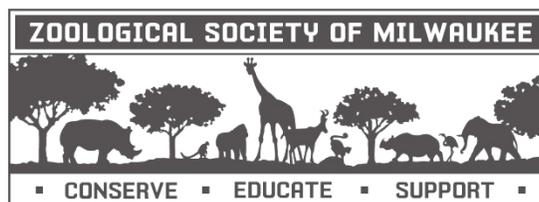
The Zoo is full of animals that live in a variety of unique environments. To survive in their environment, animals have adapted both physically and behaviorally. Introduce your students to the world of animal adaptations, including what adaptations are and how adaptations help animals survive.

Objectives

- Children will understand what animal adaptations are.
- Children will be able to explain why animal adaptations are important.
- Children will be able to explain different types of animal adaptations and how they serve different animals.

Wisconsin Academic Science Standards

- B.4.6 Cite how different organisms adapt to their habitat.
- F.4.1 Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive.



This curriculum packet provided by the Zoological Society of Milwaukee County and the Laddish Company Foundation.

Teacher Background Information

Adaptations play a critical role in the survival of an animal. Adaptations are any behavioral or physical characteristics of an animal that help it to survive in its environment. There are two types of adaptations:

A **physical adaptation** is some type of structural modification made to a part of the animal's body; it is something on or in an animal that helps it survive. For example, polar bears have a thick layer of blubber to help them stay warm in their Arctic habitat.

A **behavioral adaptation** is something an animal does - how it acts - usually in response to some type of external stimulus. For example, song birds migrate to warmer places for the winter so they can find food.

When you look at an animal you can usually see some of its adaptations like how it moves or how it may protect itself. Different animals have many different ways of trying to stay alive. Their adaptations are matched to their way of surviving in their environment. Each group of animals has its own general adaptations. These groups are: fish, amphibians, reptiles, birds, and mammals. Some of these adaptations make it easy to identify which group an animal belongs to. For example, one of the most basic animal adaptations are body coverings. Fish have wet, slimy scales; amphibians have only skin; reptiles have hard, dry scales; birds have feathers; mammals have hair/fur.

Adaptations are the result of evolution. Evolution is a change in a species over long periods of time. It is this process of change over time that is the key to how many animals develop adaptations. Over time, animals that are better adapted to their environment survive and breed more. Animals that are not well adapted to an environment may not survive. For instance, the spots on the snow leopard did not appear overnight. Instead, this process took generation upon generation of snow leopards physically adapting to their environment for characteristic spot patterns to evolve. Those snow leopards with spot patterns were able to camouflage more successfully, therefore surviving longer than those without spots. This allowed the longer surviving snow leopards to reproduce and create more snow leopards with spot patterns like their own.

Vocabulary

- **Adaptation:** A body part, body covering, or behavior that helps an animal survive in its environment.
- **Behavior:** The actions of an animal.
- **Camouflage:** A color or shape in an animal's body covering that helps it blend into its environment.
- **Environment:** Everything that surrounds and affects a living thing; it includes non-living things, such as water and air, as well as other living things.
- **Habitat:** The place where an animal lives and finds food, water, shelter, and space needed to survive.
- **Survive/Survival:** Using adaptations to continue to live.

Classroom Activity

Materials: Animal pictures from magazines/books/Internet (may want to mount them on cardboard), chalk board, tape

- Tape several animal pictures to the chalkboard. Leave space underneath them for writing.
- Ask students to look at the pictures and note special features the animal has for surviving in its habitat.
- Write down students' answers under the correct animal. Explain those features are adaptations.
- Next ask the students what special behaviors the animal might have to help it survive. Explain that behaviors also help an animal survive in their habitat

Classroom Extensions

- Have students work individually or in small groups to design an imaginary animal. They can use modeling clay, paper and crayons or markers, and other art supplies. Have each group give a name to their animal and develop a fact sheet. The fact sheet should include habitat, diet, gender, behavior and physical characteristics. Once the students are finished, display the animals and have the students examine the animals and make predictions about habitat, behavior, and diet based on the animal's visible characteristics. Then have the students share their fact sheets with the class.
- Have students develop a set of "why do" questions about animals and plants. Have them then do research to find the answers. For example: *Why do zebras have stripes? Why do roses have thorns?*

Additional Resources

How do Animals Adapt? (The Science of Living Things) – Bobbie Kalman and Niki Walker

What do You Know about Animal Adaptations? – Suzanne Slade

Would You Survive?: Animal and Plant Adaptions – John Townsend

Extreme Animals: The Toughest Creatures on Earth – Nicola Davies and Neal Layton

Internet Resources

Animal information: <http://animaldiversity.ummz.umich.edu/site/index.html>
<http://www.mbgnet.net/>

Videos: <http://www.kidport.com/Reflib/science/Videos/Animals/AnimalVideoIndex.htm>

Classroom activities: <http://www.teachervision.fen.com/ecological-adaptation/animals/6989.html>

Zoo Activity: Animal Adaptations and the Environment

Fill in the table with one animal from the given environment, an adaptation that animal has to help it survive in its environment, and how the adaptation helps the animal survive in its environment.

Environment	Animal	Adaptation	How Adaptation Helps
Polar 			
Rain Forest 			
Desert 			
Ocean 