

# Animal Adaptations Guided Tour (Grades K – 8)

## Teacher Guide

### Tour Description

Discover the basic needs of animals, and explore how plants and animals adapt to changing seasons and environments. Dress-A-Beaver Activity included in Pre-K through 4<sup>th</sup> grade programs.

### Objectives

- To explain the requirements of a habitat (food, water, shelter, and space).
- To explain the term adaptation and give examples of how animals and plants are adapted to their environment.

### Standards

#### Wyoming

- SC.4.1.1 – Characteristics of Organisms: Students describe observable characteristics of living things, including structures that serve specific functions and everyday behaviors.
- SC.4.1.2 – Life Cycles of Organisms: Students sequence life cycles of living things, and recognize that plants and animals resemble their parents.
- SC.4.1.3 – Organisms and Their Environments: Students show connections between living things, their basic needs, and the environments.
- SC.8.1.5 – Behavior and Adaptation: Students recognize behavior as a response of an organism to an internal or environmental stimulus and connect the characteristics and behaviors of an organism to biological adaptation.

#### Montana

- SC.4.3.1 – identify that plants and animals have structures and systems that serve different functions for growth, survival, and reproduction
- SC.4.3.2 – identify, measure, and describe basic requirements of energy and nutritional needs for an organism
- SC.4.3.4 – explain cause and effect relationships between nonliving and living components within ecosystems; and explain individual response to the changes in the environment including identifying differences between inherited, instinctual, and learned behaviors
- SC.8.3.2 – explain how organisms and systems of organisms obtain and use energy resources to maintain stable conditions (e.g., food webs, photosynthesis, respiration)
- SC.8.3.4 – investigate and explain the interdependent nature of populations and communities in the environment and describe how species in these populations adapt by evolving

## Pre-Visit Activities

### Brainstorm Museum Etiquette

Discuss your upcoming trip to the Buffalo Bill Historical Center. Engage students in a brainstorming session. Ask them to name rules they should follow when visiting the museum.

### Introduce Habitats of the Greater Yellowstone region

Discuss with students the different types of habitats in the Greater Yellowstone region.

**Alpine** – tall mountain above 10,000 feet with cold, windy, and snowy conditions with little trees or shelter

**Mountain Forest** – a forest between 6,000-10,000 feet in elevation with more trees and shelter than the Alpine habitat

**Mountain Meadow** – a wet habitat with elevations above 6,000 feet

**Plains Basin** – a dry habitat with elevations below 5,000 feet

### Introduce Vocabulary

Discuss the vocabulary terms below.

**Habitat** – a place where plants and animals live with four important requirements for survival (food, water, shelter, and space)

**Adaptation** – a characteristic, trait, or “thing” that plants and animals have that helps them survive in a particular environment

**Carnivore** – animals that eat other animals

**Herbivore** – animals that eat plants

**Camouflage** – an animal’s ability to blend in with its surroundings

**Predator** – an animal that hunts other animals for food

**Environment** - the surroundings in which a person, animal, or plant lives

**Shelter** – an animal’s place of safety and protection from danger and weather

**Riparian** – a wet environment near rivers and streams

## Post-Visit Activities

### Studying Endangered Animals

Study different types of endangered animals in the Northern Rocky Mountains. Discuss their status today. Examples may include the grizzly bear, gray wolf, black-footed ferret, prairie dog, Canada lynx, whooping crane, and Wyoming toad.

### Mixing up Adaptations

*Materials: The Mixed-Up Chameleon by Eric Carle, craft supplies*

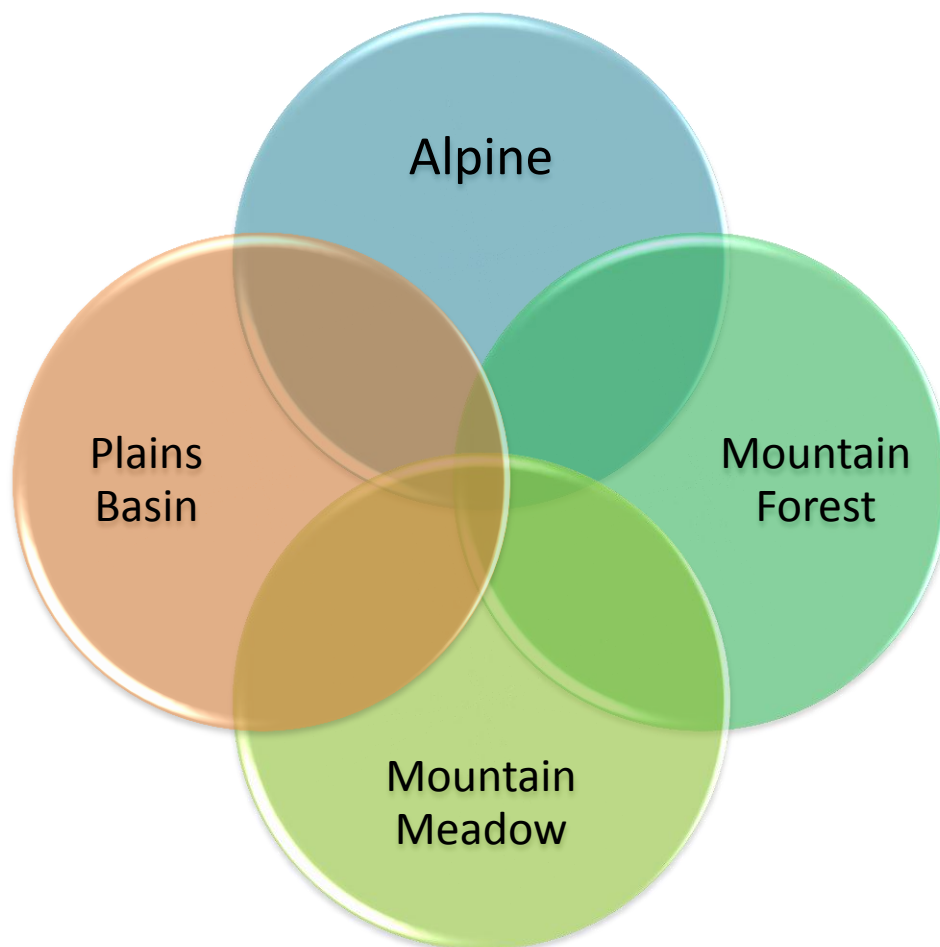
Read or have students read *The Mixed-Up Chameleon* by Eric Carle. Challenge students to name the different adaptations the chameleon has throughout the story. Allow time for students to create their own mixed up animal with many adaptations.

### Comparing Adaptations

*Materials: Venn Diagram*

Have students complete a Venn Diagram such as the one provided. Ask student to recall the different animal adaptations from each habitat. Explain that they should fill in the diagram looking for similarities and differences in adaptations.

*Venn Diagram showing habitats in the Greater Yellowstone Area*



## Resources

### Buffalo Bill Historical Center Resources

*Buffalo and How They Live* – available on VHS through our lending program

This video captures buffalo life in Yellowstone National Park including a newborn calf struggling against a spring snowstorm, bulls as they spar, and buffalo defending their young. Learn about amazing supporting players such as elk, and the always-present coyote.

*Catch Me if You Can* – available on VHS and DVD through our lending program

Discover the role of play in all animals' lives. Watch elk calves dodging in a game of tag, and bison calves butting heads. These activities prepare animals for life as an adult. This documentary shows excellent comparisons of adult animals and their young.

Gray Wolf Natural History Trunk – available through our lending programming

The Gray Wolf is a keystone species of the Greater Yellowstone region. With its reintroduction in 1995-1996, there has been a lot of discussion about the impact of this animal. Use this trunk to explore the wolf's biology and controversy, and to develop management solutions in your classroom! The trunk contains a wolf pelt, skulls, tracks, and various other current resources and fun activities! A teacher's manual and activities for grades 1-8 are also enclosed.

All about Owls – outreach program available for Cody, Powell, and Meeteetse schools

Owls have unique characteristics to help them survive as night predators in the natural world. This hands-on program will help students understand how owls survive and their role in the food chain.

### Other Resources

*Our Wild World* series (Northwood Press)

- *Moose*
- *Bison*
- *Wolves*
- *Black Bears*
- *Cougars*
- *Eagles*

*Animals That Hibernate* (Watts Library: Animals) by Phyllis J. Perry

*Animals That Migrate* (Watts Library: Animals) by Carmen Bredeson