

# Creature Features

## Teacher Guide

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Grade Levels: Age 4 - Kindergarten

### Program Overview

The instructor will lead a discussion about animals with backbones. The class will go through the four major groups of land vertebrates: amphibians, reptiles, birds, and mammals. The students will reinforce what they have learned using museum specimens in a hands on activity.

### Objectives/Student Learning Outcomes

After participating in this program, students will be able to:

- Identify four types of terrestrial vertebrates and give examples of each.
- Recognize identifying characteristics of each major group of terrestrial vertebrates.
- Be familiar with several native Oklahoma animals.

### Background

Many Oklahoma children are more familiar with lions, tigers, or zebras than they are with coyotes, tiger salamanders, or box turtles. While they may encounter some African animals at a zoo, it is also important that they know about wild animals that are part of their local ecosystem.

What makes a tiger a mammal or a turtle a reptile? While there are many scientific characteristics that separate mammals from reptiles, there is one basic and simple way to categorize land dwelling animals with backbones: body coverings. **Mammals** are animals that have **fur** or hair. They are also warm-blooded, or endothermic, have live birth, and the mother mammals feed their young milk. **Birds** are also warm blooded, but they are covered with **feathers**. The females lay shelled **eggs** and then gather food for their young or help their young to gather food.

Reptiles and amphibians are cold blooded, or ectothermic, meaning they are the same temperature as their environment. They can not maintain a constant internal temperature like birds and mammals. **Reptiles** are covered with **scales**, and also hatch from shelled **eggs** laid by females. **Amphibians** have no scales to protect them

### P.A.S.S.

#### Pre-Kindergarten

Science Process - 1.1, 1.4

Physical Science - 1.1

Life Science - 1.3

#### Kindergarten

Science Process - 1.1, 1.3

Physical Science - 1.1

Life Science - 2.3

(although there is fossil evidence showing that ancient amphibians were probably scaled), so many species use a **slimey** coating on their skin. Female amphibians lay jelly-like **eggs** that must develop in water.

### **At the Museum**

#### Hall of Natural Wonders

Look for mammals, birds, reptiles, and amphibians in each of the four exhibits: Upland Stream, Oak-Hickory Forest, Limestone Cave, and Mixed Grass Prairie.

As your class visits each exhibit, ask them to find a mammal, a bird, a reptile, and an amphibian. There is at least one example of all four kinds of land animals with backbones in each of the four exhibits. You may have to look closely for the amphibians- they are usually pretty small.

#### Hall of Ancient Life

Animals have been living on land for at least 400 million years.

- Currently, the Paleozoic gallery is under construction through May 2008.
- The Mesozoic Era, also known as the age of dinosaurs, was dominated by large reptiles. But there were amphibians, birds, and mammals alive during this time as well. Look closely at some of the smaller animals in this gallery- you may spot some!

### **VOCABULARY**

**Backbone** - the skeleton on the trunk and tail of an animal; the bones in the middle of the back of mammals, birds, reptiles, amphibians, and fish.

**Egg** - a small object made by an animal that holds its young and the food required for development.

**Mammal** - an animal with a backbone that has a body covering of fur.

**Bird** - an animal with a backbone that has a body covering of feathers.

**Reptile** - an animal with a backbone that has a body covering of scales.

**Amphibian** - an animal with a backbone that has a body covering of skin that is sometimes slimey.

**Fur** - the hairy coat of a mammal.

**Feathers** - the light structure that is the body covering of birds.

**Scales** - thin, flat plates the form the body covering of reptiles.

**Slime** - a slippery or sticky substance that some amphibians make on their skin.

## Supplementary/Enrichment Activities

### Science

1. **What is it?** Ask students to bring in some magazines with pictures of animals. Let them flip through the magazines and cut out the pictures of animals (or you can do this step in advance.) Ask students to sort the picture into two piles: things with backbones and things without backbones. Then sort the “backbone” pile into smaller piles. You can do an “in the water” pile and an “on land” pile, or you can go straight to sorting out the major groups (mammals, birds, reptiles, amphibians). Have the students observe the animals, look at its body covering, and sort it into a group. They should come up with four groups: fur, feathers, scales, and no covering/skin.

### Language Arts

1. **What kind of critter are you?** Humans are mammals, but what kind of animal would you like to be? Ask students to think about what it might be like to run like a coyote, to fly like a hawk, to slither like a snake, to hop like a frog. Then ask students to think about the animals they would like to be. How does it move? What kind of body covering does it have? What does it eat? Where does it live? Then, once they have imagined an animal, ask them to act like their animal, or to describe it. For an art extension, ask students to draw their imaginary animals.

### Art

1. **Create your own critter!** Gather some pictures of animals from magazines (or use the same photos from the activity above). Ask the students to cut out parts from the pictures and reassemble them on a piece of paper to make their own critter. Students may choose to use the eyes of a dog, the ears of an elephant, the body of a frog, and the tail of a snake to create a crazy critter! They can glue their critters to paper, or they can keep making critters over and over with the cut out parts.
2. **Create a critter, part two.** Ask students to draw their own critter, keeping in mind the different body coverings. Crayons, markers, or colored pencils all work well.

### Math

1. **Count the parts.** All land-living animals with backbones have plenty of things in common. Gather some pictures of mammals, birds, reptiles, and amphibians from picture books, story books, or magazines. (You can leave the pictures in the book or magazine). Count the different parts on these animals. How many legs? How many eyes? How many tails? You can record the results on a chart. Record the type of animal, the numbers of different parts it has. For instance a dog has 4 legs, one tail, two eyes, two ears, one mouth, and one nose. A bird has two legs and two wings, one tail, two eyes, two ears, one beak, and one nose. What things are the same? What things are different?