

## **Title:** Know Your Vertebrates

**Objective:** Classify animals within five categories

**Time:** 20 minutes

**Materials Needed:** Science journals, pencils, and colored pencils

### **Interdisciplinary Lesson**

**Theme: Animals**

Topic: Vertebrate classification

Suggested Grade Level: 2-5

Indoors or Outdoors: Either,  
Extension- Outdoors

### **Directions:**

1. Have students work in pairs. Each pair should divide a journal page into five equal sections.
2. Label each section with one of the following: MAMMAL, AMPHIBIAN, REPTILE, FISH and BIRD.
3. Give students a set time to write as many animals as they can into each classification category.
4. Signal the end of the writing time. Ask students to tally up how many animals they were able to list for each category.
5. Students use their data to create a bar graph in each of their journals using their tallies for the five categories of vertebrates.

### **Discussion Questions:**

1. Which type of vertebrate was the easiest for you to list? Why? Which group was the hardest? Why?
2. What do the animals in the MAMMAL section have in common? AMPHIBIAN? REPTILE? FISH? BIRD?
3. Are there other categories we could put animals into? What are they and what animals would you put into these groups?
4. Why is it important for us to know about animal classification?

**Outdoor Extension:** (Adds Science Practice: 8. Obtaining, evaluating, and communicating information.)

Have students prepare a journal page, dividing it into five equal columns with vertebrate group headings. Then, hike the schoolyard looking for evidence of animals: the actual animal, scat, footprints, and sounds. Students classify as they record observations in the proper columns in their journals. Provide time to discuss findings. Collect photo evidence if possible.

## Science and Engineering Practices:

1. Asking questions (science); 6. Constructing explanations (science).

## Cross Cutting Concepts:

6. Structure and function.

## Disciplinary Core Idea:

Life Sciences: LS 3: Heredity: Inheritance and variation of traits.

## Background Information:

- **Mammals:** are warm-blooded, they grow hair, give live birth to young, and use lungs to breathe. Examples include squirrel, fox, coyote, sheep, porcupine, polar bear, and camel.
- **Amphibians:** have soft moist skin, lead one life in water and one on land. Many begin life with gills and develop lungs. They are cold-blooded, the environment regulates their body temperature. Examples include frog, toad, salamander, and newt.
- **Reptiles:** are covered in dry scales. Most reptiles live on land and most lay eggs. They are cold-blooded. Examples include alligator, turtle, gecko, snake, crocodile, and lizard.
- **Birds:** are the only animals with feathers. All birds are warm-blooded, lay eggs and incubate their young. Birds also have wings which most use for flight. Examples include robin, bald eagle, blue jay, and flamingo.
- **Fish:** are covered with slime-coated scales to protect them in their aquatic environment. Most lay eggs but some give live birth. They breath with gills, taking in oxygen from the water. Examples include sharks and walleye.

## Additional Resources:

- National Geographic: This site includes information about specific animals - <https://www.nationalgeographic.com/animals>
- MN DNR: *Super Squirrels, These Dogs are Wild* - <https://www.dnr.state.mn.us/mcvmagazine/young-naturalists.html>

## Correlates with:

Greeting - Vertebrates: Common Traits Greeting (p. 36)

Activity - Join the Herd (p. 53)