



Sorting Species, Pre K – 1st Grade: Pre Visit Guide

Students will explore the characteristics of different vertebrates such as birds, mammals, and reptiles and learn that animals can be classified into different groups based on their features.

These resources will help you and your students prepare to make the most of your zoo experience!

In-Classroom Activities

Introduce the idea that animals are put into groups based on certain characteristics. The main division is between animals with backbones (vertebrates) and animals without (invertebrates). Invertebrates include animals such as insects, jellyfish, spiders, sponges, and many more! There are five main groups classified as vertebrates:

MAMMALS

All mammals have hair and are warm-blooded (meaning they can maintain their body temperature at a relatively constant level). Most mammals give live birth, and all feed their young milk.

BIRDS

All birds are covered with feathers and have wings, although not all birds fly. They lay eggs and are warm blooded. They have a beak, and many have light, hollow bones to allow for flight.

REPTILES

All reptiles are covered with hardened plates made of keratin called scales or scutes. They are cold-blooded, meaning their body temperature is directly affected by the temperature of their environment. Most reptiles lay eggs.

This group includes snakes, turtles, lizards, and crocodilians.

AMPHIBIANS

All amphibians are cold-blooded and have thin, scale-less skin. Many go through a process called metamorphosis; they hatch from a jelly-like egg into an aquatic larval stage with gills, then transform into a lunged adult and move on to land.

This group includes frogs, toads, salamanders, newts, and caecilians.

FISH

All fish live in water and breathe using gills. They are cold-blooded and have fins to help propel themselves through the water. Many fish lay eggs and are covered with scales.

This group includes jawless fish (lampreys), cartilaginous fish (sharks/rays) and bony fish.

Animal Arrangement

Have students explore animal groups using the picture examples provided below. Copy and cut out the photos, and have the students sort them into groups based on different criteria: body covering (fur, feathers or scales?), patterns (spots or stripes?), class (reptile, mammal, etc?), habitat (land or water?).

Can they come up with other ways these animals could be grouped?



Comparing Classes

Compare the characteristics of animals from each group and see if you can find any similarities! Use the photos provided above, or your own examples, and give each student an animal. Have the students stand in a large circle with their animal picture visible to the group (hanging them on yarn as a necklace is a good option). Explain that they will now take on the characteristics of that animal, and if they hear a trait that fits, they will move to the middle of the circle. For each round of characteristics, examine which groups of animals are represented in the middle of the circle.

Which animals are warm blooded? Cold blooded?

Which animals lay eggs? Which give live birth?

Which animals have scales?

Which animals breathe with lungs? Gills?

Which animals live on land? In the water?

Which animals can fly?

Recommended Reading

- [Miles and Miles of Reptiles](#) by Seuss
- [Let's Classify Animals](#) by Kelli Hicks
- [A Mammal is an Animal](#) by Lizzy Rockwell
- [A Bird is a Bird](#) by Lizzy Rockwell

Discussion/Research Topics

Compare humans and animals—where do we fit in?


Are there any animals that “break the rules” of classification?

What other ways can we group animals?

- *Diet (herbivore, omnivore, carnivore)*
- *Food chain (predator, prey, scavenger)*
- *Activity (nocturnal, diurnal)*

List your favorite animal's characteristics—to which group does it belong?

Student Worksheet

Draw a **BLUE**  SQUARE around the **AMPHIBIAN**.

Draw a **RED**  CIRCLE around the **BIRD**.

Draw a **YELLOW**  TRIANGLE around the **MAMMAL**.

Draw a **GREEN**  RECTANGLE around the **REPTILE**.

Draw a **PURPLE**  OVAL around the **FISH**.

