

**What do all those scaly, furry, feathered, fossil, growling,
gliding, flyling, slithering, swimming, hopping, crawling
things you see in the Museum have in common?**

They are all Animals!

Animals are living things that are part of the Kingdom Animalia. Living things are divided into five kingdoms.

1. **Monera**
2. **Protista**
3. **Plantae**
4. **Fungi**
5. **Animalia.**

Can you name one other kingdom that is represented by something on display in the Museum?

The study of these living things is called **Biology** and a person who studies living things is called a **Biologist**.

ANIMALIA

The animal kingdom includes living things that are multicellular and must eat food to create energy (some living things make their own food). The animal kingdom can be further subdivided into **vertebrate** animals (with backbones) and **invertebrate** animals (without backbones). Animals without backbones include protozoa, sponges, coral, worms, nematodes, sea snails, and octopods (molluscs), and arthropods (insects, spiders, crabs, crawfish, and centipedes). The arthropods are the largest assemblage of living animals on the earth. The study of animals is called **Zoology** and a person who studies animals is called a **Zoologist**.

There are five categories of animals with **backbones**:

1. **Fishes**
2. **Amphibians**
3. **Reptiles**
4. **Birds**
5. **Mammals**

Fishes are finned aquatic vertebrates. They have scales, an interior skeleton, and breathe by passing water over their gills (aquatic respiration). Some examples of fish include trout, stingrays, and sharks. Some bear live young and others produce eggs with no shells. Young hatched from eggs may still have a yolk sac attached to their bodies from which they feed. The study of fish is called **Ichthyology** and a person who studies fish is called an **Ichthyologist**.

Amphibians live part of their lives on land and part of their lives in the water. They have smooth, moist skin with no scales, feathers, or hair. Some have lungs and some have gills. They lay eggs, but their eggs lack a shell and usually develop underwater. Some examples of amphibians are frogs, toads, newts, and salamanders. **Reptiles** live on land, have scaly skin and lay eggs with shells. They have lungs rather than gills and may or may not have teeth. Some examples of reptiles are turtles, tortoises, lizards, snakes, crocodiles, and dinosaurs (now extinct). The study of amphibians and reptiles is called **Herpetology** and a person who studies reptiles and amphibians is a **Herpetologist**.

Birds live on land and have scaly legs and lay eggs with shells (like reptiles), but they have feathers covering their bodies. Their forelimbs are modified into wings and they have a bill or beak without teeth. Bird bones are hollow so that the skeleton is light and flight is made easier. Bird breast plates (sternum) are modified into a keel where the extremely large muscles required for flight are attached. Some examples of birds include owls, herons, woodpeckers, pelicans, penguins, ostriches, songbirds, and hummingbirds. The study of birds is called **Ornithology** and a person who studies birds is called an **Ornithologist**.

Mammals can live on land or in water. They have an interior skeleton, but a soft body on the exterior, with hair that covers all or part of the body. They feed their young with milk from mammary glands and have a diaphragm for aerial respiration. Almost all mammals have teeth and they are usually characteristic of the life-style of the animal. Mammals can range in size from the 4 cm long pigmy shrews to the hundred foot long whales. The study of mammals is called **Mammalogy** and a person who studies mammals is called a **Mammalogist**. There are three different types of mammals:

1. **Monotremes** such as the duck-billed platypus and spiny anteater, have all of the characteristics of mammals, except they do not bear live young, they lay eggs.
2. **Marsupials** such as kangaroos and koalas, bear live young which must climb into the pouch of the female to develop fully.
3. **Eutherians**, such as humans, dogs, cats, and dolphins, have a placenta and bear fully-developed young.

Vocabulary:

1. Animalia
2. Biology
3. Biologist
4. Vertebrate
5. Invertebrate
6. Zoology
7. Zoologist
8. Fishes
9. Amphibians
10. Reptiles
11. Birds
12. Mammals
13. Ichthyology
14. Ichthyologist
15. Herpetology
16. Herpetologist
17. Ornithology
18. Ornithologist
19. Mammalogy
20. Mammalogist