

## Welcome to WONDERS UNDER THE MICROSCOPE

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## Animal Kingdom

The Animal Kingdom or Kingdom Animalia, is one of the five major kingdoms of life on Earth. All animals are multicellular eukaryotes, meaning their cells have nuclei and work together in complex ways. Unlike plants, animals are heterotrophic, which means they rely on consuming other organisms for energy. They also have specialized tissues like muscles and nerves, which allow them to move, sense, and respond to the world.



But what makes this kingdom so incredible isn't just its biology — it's its diversity. Scientists have identified over 1.5 million animal species, and many more remain undiscovered. The Animal Kingdom is divided into different phyla, each with its own unique traits:

- Porifera (sponges): Simple, filterfeeding animals that pump water through their bodies.
- Cnidaria (jellyfish, corals, sea anemones): Soft-bodied, often with stinging cells.

Arthropoda (insects, crustaceans, spiders): The largest group — making up about 80% of all known animals!
Chordata (mammals, birds, reptiles, amphibians, fish): Animals with backbones or at least a notochord during development.

Despite their differences, all animals share one thing: they are alive with purpose. Bees pollinate crops, keeping ecosystems and our food supply alive. Corals build reefs that shelter thousands of marine species. Dephants mourn their dead, wolves hunt as families, and primates teach their young behaviors that remind us of our own emotions and communities.

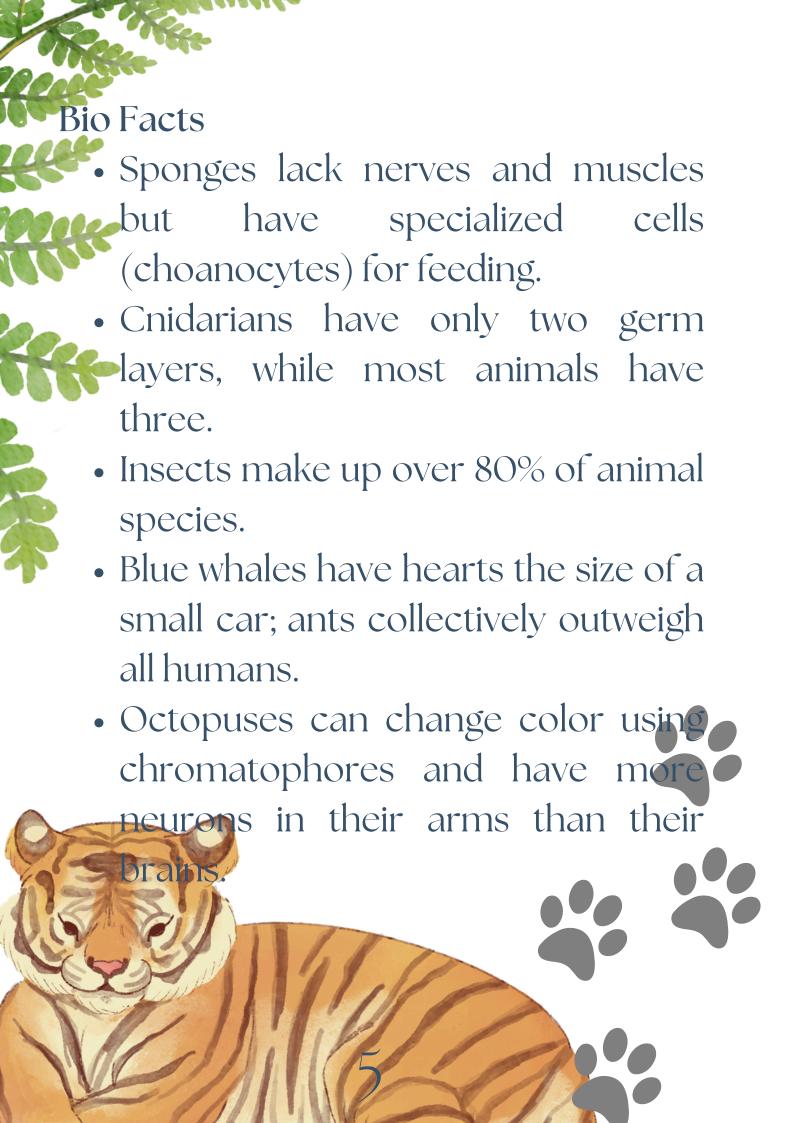
## Did You Know?

• The blue whale is the largest animal ever to exist, bigger than any dinosaur.

Tardigrades (water bears), tiny microscopic animals, can survive extreme at, freezing radiation, and even outer space.

The animal kingdom also connects us to our past. We humans belong here too — as primates in the phylum Chordata. The same DNA code runs through every creature, from the tiniest ant to the tallest giraffe. Evolution tells our shared story: life began in the oceans billions of years ago, and over time, some animals developed lungs and legs, crawling onto land. We are all branches of the same ancient tree.





## **Evolutionary Insights**

- Animals likely evolved from a colonial protist ancestor (choanoflagellates) over 600 million years ago.
- The Cambrian Explosion (~541 million years ago) saw a rapid diversification of animal body plans.
- Vertebrates appeared around 500 million years ago; mammals emerged ~200 million years ago.



What is the fastest land animal?

will be answered in the next issue





