

KINGDOM ANIMALIA: BASIC FEATURES OF ALL ANIMALS

The kingdom Animalia is distinguished by heterotrophic eukaryotic organisms, which are multicellular, and their cells lack a cell wall. Let's delve into the intricacies of this definition to comprehensively understand the various features that define animals.

- **Heterotrophic Nutrition:** All animals exhibit heterotrophy, relying directly or indirectly on plants for sustenance. Herbivores directly consume plant products such as fruits, vegetables, cereals, and pulses. Carnivores or omnivores, on the other hand, consume other animals that derive their nutrition from plants or other animals. For instance, lions, as carnivores, indirectly depend on grass because their prey, deer, consumes grass. In this way, all animals, whether herbivores, carnivores, or omnivores, depend on plants for survival.
- **Holozoic Mode of Nutrition:** Animals engage in holozoic nutrition, involving the ingestion of whole or partial plants or animals in either solid or liquid form. This mode includes processes like ingestion, digestion (enzyme-mediated breakdown), absorption, and assimilation to effectively utilize food. Animals store this ingested food in the body as reserves, with glycogen and fat being common examples.
- **Eukaryotes:** All animals are eukaryotic, meaning their bodies consist of eukaryotic cells. Eukaryotic cells possess a structured nucleus with a nuclear envelope and various membrane-bound organelles, such as mitochondria and the Golgi apparatus, performing specialized functions. Unlike plant cells, animal cells lack a cell wall and rely solely on cell membranes to maintain their shape.
- **Multicellular:** No animal exists as a single cell; all animals are multicellular. Their bodies consist of more than one cell, varying in number from hundreds to billions or trillions. The hallmark of animals is the display of multicellularity.
- **Growth:** Animals undergo a defined growth trajectory from birth to death, reaching adulthood with a specific shape and size. In some cases, adult forms can markedly differ from their juveniles, a phenomenon known as metamorphosis.
- **Locomotion:** Most animals possess the ability to move, facilitating their search for food, shelter, protection, mates, etc. However, some lower animals, classified as sessile, cannot move and remain permanently attached to a solid support, such as sponges.
- **Nervous and Sensory Control:** Higher animals boast intricate sensory and neuromotor mechanisms, enabling them to be aware of their surroundings. The nervous system, serving as the control center, coordinates various body systems, while the sensory system keeps the organism attuned to environmental changes. Additionally, the endocrine system contributes chemical integration through the release of hormones. Lower animals may lack such highly specialized control systems.
- **Reproduction:** Sexual reproduction is the predominant mode among animals, involving copulation between male and female and subsequent embryological development. Some lower animals also employ asexual modes of reproduction, such as fragmentation and budding.