



# Taxonomy

Science Study Guide Version 3.1

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The divisions shown below are organized in the common order given to taxonomic hierarchy: **Kingdom-Phylum-Class-Order-Family-Genus-Species**. They are then organized roughly by importance to quizbowl within those divisions. This list is not complete.

**Carolus Linnaeus** was a Swedish botanist who popularized the use of **binomial nomenclature**, the practice of calling organisms by their genus and species names.

A **clade** is a collection of organisms descended from a common ancestor. This term will sometimes be used in place of the specific classification level in the early part of a tossup, or will be used to describe a collection of organisms that falls outside the classic **Kingdom-Phylum-Class-Order-Family-Genus-Species** hierarchy.

## Kingdoms

Kingdom	Common Name	Details
<b>Fungi</b>	fungus	Includes <b>yeasts</b> , <b>mushrooms</b> , and <b>molds</b> ; possess <b>hyphae</b> , root-like structures that form a branching <b>mycelium</b> (plural <b>mycelia</b> ); form <b>lichens</b> in symbiosis with algae
<b>Protista</b>	protists	division of <b>eukaryotes</b> ; includes <b>algae</b> , <b>amoeba</b> , and <b>protozoans</b>

Other notable kingdoms: **Animalia** (animals), **Plantae** (plants)

## Phylums / Phyla

Phylum	Common Name	Details
<b>Cnidaria</b>	cnidarians	Pronounced [nye-DAY-ree-ah]; includes <b>jellyfish</b> , <b>corals</b> , and <b>anemones</b> ; named for their <b>stinging cells</b> ; have <b>polyp</b> and <b>medusa</b> body forms
<b>Echinodermata</b>	echinoderms	Includes <b>sea urchins</b> , <b>starfish</b> , and <b>sand dollars</b> ; name means "spiny skin"; have <b>radial symmetry</b> , often with five sides
<b>Mollusca</b>	mollusks	Includes <b>shelled</b> creatures like <b>oysters</b> (in class bivalvia, or <b>bivalves</b> ), <b>slugs</b> and <b>snails</b> (in class gastropoda, or <b>gastropods</b> ), and <b>squid</b> and <b>octopus</b> (in class cephalopoda, or <b>cephalopods</b> )
<b>Porifera</b>	poriferans; sponges	<b>Sessile</b> , or immobile; possess <b>spicules</b> , stiff structural supports made of <b>calcium</b>

Other notable phyla: **Platyhelminthes** (flatworms), **Nematoda** (roundworms), **Annelida** (segmented worms), **Chordata** (chordates, animals with backbones), **Arthropoda** (arthropods, animals with external skeletons), Amoeba, Cyanobacteria

## Classes

In Phylum	Class Name and Details
Chordata	<b>Amphibia</b> (amphibians), <b>Mammalia</b> (mammals), <b>Aves</b> (birds), <b>Reptilia</b> (reptiles)
Arthropoda	<b>Insecta</b> (insects), <b>Arachnida</b> (arachnids)
Mollusca	<b>Bivalvia</b> (bivalves), <b>Gastropoda</b> (gastropods), <b>Cephalopoda</b> (cephalopods)