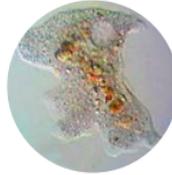


Earth's Animals and Plants

Animals



Plants



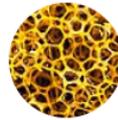
Animal Phyla



Annelid



Echinoderm



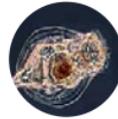
Porifera



Arthropod



Mollusk



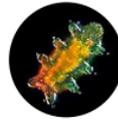
Rotifer



Chordate



Nematode



Tardigrade



Cnidaria



Platyhelminthes

Animals are usually made of many cells. They are capable of movement at some stage in their life cycle. They respond to their environment. They feed by consuming other organisms. Animals are heterotrophic meaning that they digest food in an internal chamber. This makes them very different from plants and fungi. They are also distinguished by lacking cell walls.

Plant Divisions



Angiosperma



Cycadophyta



Lycophyta



Bryophyta



Ginkgophyta



Pteridophyta



Coniferophyta



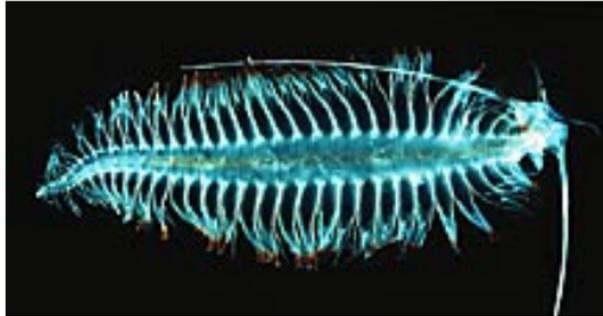
Gnetophyta



Sphenophyta

Plants include familiar organisms such as trees, flowers, herbs, bushes, grasses, vines, ferns, and mosses. As of 2004, some 287,655 species had been identified. Plants are mostly autotrophs, which means that they obtain energy from sunlight to make their own food. This is one of the most important processes in the world, a process called photosynthesis.

Annelids ~ 15,000 species



The segmented worms made of “little rings.” About 15,000 modern species including the well-known earthworms and leeches. They are found in most wet environments, and include many terrestrial, freshwater, and marine species

The seep tube worm can grow to 3 meters.

Arthropod ~ 1,230,000 species



Mexican redknee tarantula



The “jointed legged” animals. All of these animals have an exoskeleton, meaning the skeleton is on the outside of the body. Arthropods are the largest phylum of animal species and include the insects, arachnids, crustaceans, and others.

The largest living arthropod is the Japanese spider crab with a leg span up to 3½ m.

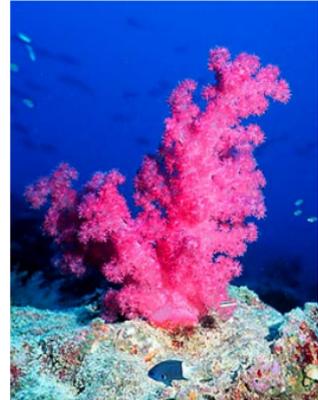
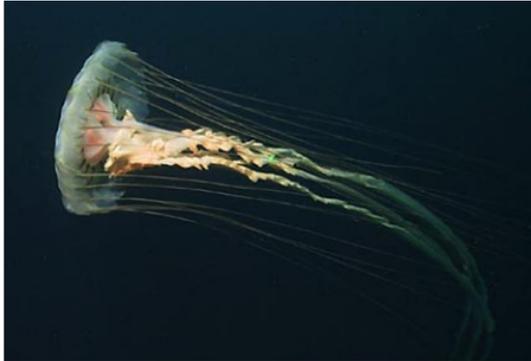
Chordates ~ 63,000 species



Chordates include the vertebrates and several invertebrates. At some time in their life, all chordates have a notochord, a hollow dorsal nerve cord, pharyngeal slits, an endostyle, and a muscular tail extending past the anus.

People are chordates.

Cnidaria ~ 10,000 species



Cnidarians get their name from cnidocytes, which are specialized cells that carry stinging organelles. The corals, which are important reef-builders, belong here, as do the familiar sea anemones, jellyfish, sea pens, sea pansies and sea wasps.

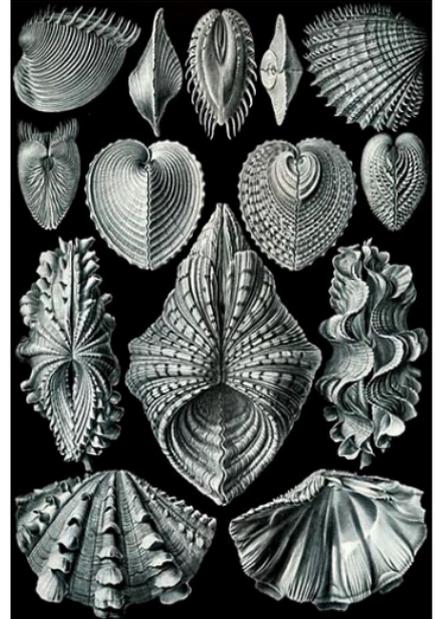
One of the most venomous animals in the world is the box jellyfish of Australia.

Echinoderm ~ 7000 species



From the Greek for (spiny skin), this phylum of marine animals is found at all depths. This phylum appeared in the early Cambrian Period about 500 million years ago. All echinoderms exhibit fivefold radial symmetry at some stage of life.

Mollusk ~ 70,000 species



The mollusks include a variety of familiar animals well-known for their decorative shells or as seafood. These range from tiny snails, clams, and abalone to squid, cuttlefish and the octopus (which is considered the most intelligent invertebrate).

The giant squid is the largest invertebrate and can reach 13 meters in length.

Nematode ~ 20,000 species



Soybean cyst nematode and egg



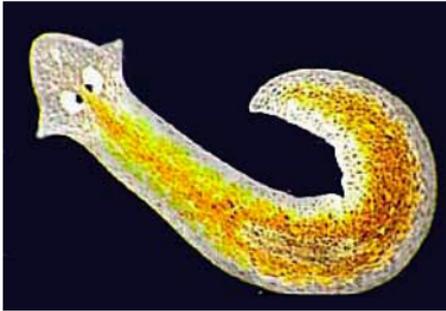
Nematode feeding on bacteria



Nematodes are everywhere -- in lakes, soil, ocean trenches, the Antarctic, the tropics. They often outnumber other animals in both individual and species counts.

Nematodes are one of the simplest animal groups to have a complete digestive system. a pattern followed by all subsequent, more complex animals.

Platyhelminthes ~ 25,000 species



Tapeworm



The flatworms are simple soft-bodied invertebrate animals. Flatworms are found in marine, freshwater, and even damp terrestrial environments.

A troublesome terrestrial example is the New Zealand flatworm which rapidly colonized large areas of Ireland and Scotland since its unintentional introduction in the 1960s and has since destroyed most of the indigenous earthworms.

Porifera ~ 5,000 species



The poriferans (Latin porus) or sponges, are primitive animals that are mostly marine filter feeders. They pump water through their bodies to filter out particles of food. Sponges represent the simplest of animals with no muscles, nerves, or internal organs. Though the fossil record of sponges dates back to the Neoproterozoic Era, new species are still commonly discovered.

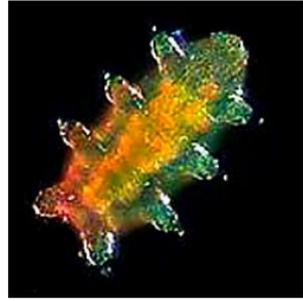
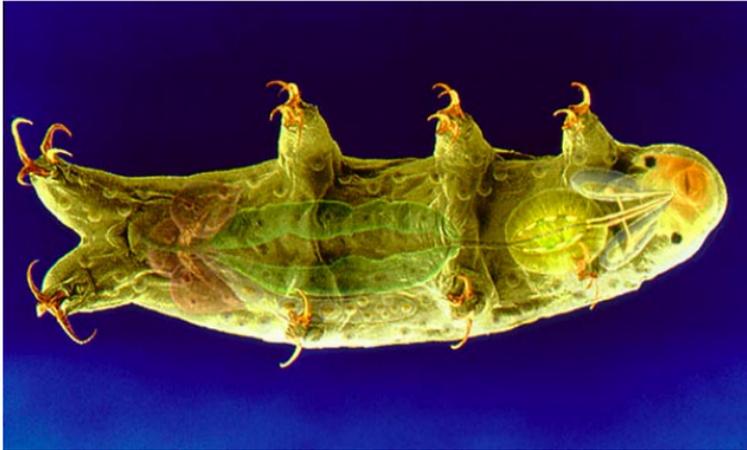
Rotifer ~ 2,000 species



Rotifers get their name from the corona, which is made of several tufts around the mouth that resemble a wheel. These create a current that sweeps food into the mouth, where it is chewed up by tiny jaws. It also pulls the animal through the water.

Most rotifers have pairs of rear toes to anchor themselves while feeding.

Tardigrade ~ 1,000 Species



Tardigrades are small – from .1mm to 1mm. They have four segments, four pairs of legs, and feet with claws. Tardigrades are hardy animals; scientists have found them in hot springs, on top of the Himalaya, under layers of ice, and in ocean sediments.

Several species can survive in a dehydrated state for nearly ten years.

Angiosperma – 250,000 to 400,000 species



Fabaceae



Bamboo

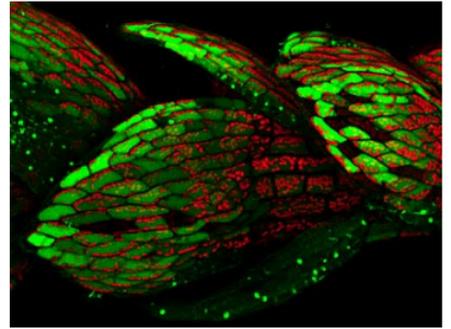


Wheat

Angiosperms produce flowers used for pollination. 150 million years ago, angiosperms became the most abundant and dominant plants on the land.

Grasses like rice, corn (maize), wheat, barley, rye, oats, millet, sugar cane, and sorghum are flowering plants that make up most of the world's food crops.

Bryophyta ~ 10,000 species



Bryophyta are the mosses – small, soft plants that are typically 1-10 cm tall. They commonly grow close together in clumps or mats in damp or shady locations. They do not have flowers or seeds, and their simple leaves cover the thin wiry stems. At certain times mosses produce spore capsules which may appear as beak-like capsules borne aloft on thin stalks.

Conifera ~ 700 species



These are the cone-bearing seed plants. All conifers are woody plants. Most are trees with just a few that are shrubs. Typical examples of conifers include cedars, cypresses, firs, junipers, kauris, larches, pines, redwoods, spruces, and yews

Conifers are important because they are used for timber and paper production.

Cycadophyte ~ 300 species



Cycads are an ancient group of seed plants characterized by a large crown of compound leaves and a stout trunk.

Cycads are frequently confused with and mistaken for palms or ferns, but are unrelated to either. Palms are angiosperms and ferns are pteridophytes

Ginkgophyta – 1 species



The Ginkgo is a unique tree with no close living relatives. It is classified in its own division, the Ginkgophyta which has just one species - *Ginkgo biloba*. For centuries it was thought to be extinct in the wild, but is now known to grow wild in at least two small areas in eastern China. It is one of the best known examples of a living fossil.

Gnetophyta ~ 60 species



Welwitschia mirabilis - a living fossil



The gnetophytes are woody plants that bear seeds. The three other seed bearing plant divisions are Coniferophyta, Ginkgophyta, and Cycadophyta

It is believed that some gnetophytes are very long-lived, possibly living 1,000 years.

Lycophyta ~ 1,200 species



Quillwort



Clubmoss

Lycopodiophyta is the oldest existing (living) vascular plant division. It evolved about 420 million years ago. These species reproduce by shedding spores. They differ from all other vascular plants in having microphylls – leaves that have only a single vein rather than the more complex megaphylls found in ferns and seed plants.

Pteridophyta ~ 20,000 species



A fern is a vascular plant that differs from the more primitive lycophytes in having true leaves, and from the seed plants in lacking seeds. Ferns produce spores instead.

A person who studies ferns is called a pteridologist.

Sphenophyta ~ 30 species



Sphenophyta has only one genus, *Equisetum*, also known as horsetails, foxtails, or scouring rushes -- this last name is derived from the fact that *Equisetum* stores granules of silica within its cells, making it an effective tool for scrubbing pots.

The horsetails were a much larger group in the distant past before seed plants became dominant across the Earth. Some species were large trees reaching to 30 m tall.

Project conception:

SJ Klein, [One Laptop per Child](#)

Neil Patterson / Ed Wilson / Charles Smith, [E.O. Wilson Foundation](#)

The mission of the E. O. Wilson Foundation is to preserve biological diversity in the living environment by inventing educational strategies in the service of conservation.

The Foundation is guided by the experience and wisdom of E. O. Wilson and is built upon many of the remarkable insights gained from his lifetime in science, education, and environmentalism. The Foundation's embrace of the full range of approaches to biodiversity -- from hands-on engagement with the natural world to modern biotechnology -- reflects Wilson's own journey from boyhood exploration of Alabama's wildlands to a career at the forefront of science at Harvard University.