

Field Guide for the Water Drop Dome

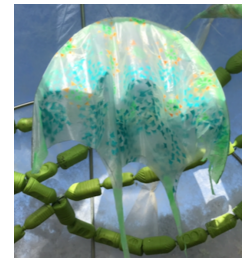
The Water Drop Dome represents a ¼-inch diameter drop of water that has been enlarged to 1,200 times its original size. The planktonic animals, protozoa and algae within the water drop are roughly the same scale, although some size adjustments were made for artistic purpose or limitations of materials.

Animals

Mosquito larvae (typical length 3 mm) - Mosquitoes are invertebrate insects in the fly family with a larval stage that depends on water. There are almost 3,600 species of mosquitoes. The larvae represented in the dome are aquatic and eat algae. The larvae hang upside down at the surface of the water for gas exchange.



Jellyfish Medusa - (typical width 1 mm, length 30 mm)- Jellyfish are invertebrate animals with a bottom-dwelling polyp stage that later produces the familiar floating medusa stage. Most are marine (living in saltwater), but there are a few freshwater species. Some jelly species have medusas large enough to see. Jellies have stinging cells in their tentacles that kill small animal prey.



Daphnia- (typical length 2 mm) Daphnia are small planktonic crustaceans with segmented bodies, like crabs and shrimp. They are called **water fleas** because their saltatory swimming style resembles the movements of fleas.



Copepod - (typical length 2 mm) Copepods are small crustaceans found in nearly every freshwater and saltwater habitat. Some copepods can be used as a biological control for mosquitoes as they eat the larval form. On Nickelodeon's SpongeBob SquarePants, Sheldon J. Plankton is a Copepod.



Cyclops (typical length 1-5 mm) - Cyclops is one of the most common genera of freshwater copepods, comprising over 400 species. Cyclops are also sometimes called water fleas.



Nematode - (typical length 1 mm) Nematodes or roundworms are a very diverse animal Phylum inhabiting a broad range of environments, including freshwaters. Commonly called 'eelworms', the number of species is estimated between 40,000 and 100 million.



Planarian- (typical length 1.2 mm) Planarians are flatworms (platyhelminths), which are unsegmented, soft-bodied invertebrates with bilateral symmetry. The freshwater planarian in the water drop is well known for its eyespots and ability to regenerate when cut.



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More information about this project: <https://www.waterdropdome.com>



Tardigrades (typical length 1.2 mm) - Tardigrades, or water bears (or moss piglets), are eight-legged, segmented microanimals. Tardigrades are a biological wonder because they are so resilient! They are found in nearly every ecosystem on Earth and have survived the most extreme conditions of temperature, pressure, radiation, starvation, dehydration and even outer space!



Rotifer - (typical length 0.5 mm) The rotifers are microscopic freshwater animals that use their mouth cilia to eat. They look like two moving wheels, so are sometimes called wheel animals. In 2021, biologists reported restoring one species back to life after being frozen for 24,000 years in permafrost.



Protozoa (protists that eat)

Amoeba- (typical length 1 mm) Amoeba proteus is a large species of protozoa. This protozoan uses extensions called pseudopodia (“false foot”) to move and to eat smaller unicellular organisms.



Paramecium - (typical length 0.6 mm) Paramecium are unicellular ciliates, with their bodies surrounded by hairs (cilia). Paramecia are widespread in freshwater, brackish, and marine environments and are often very abundant in stagnant basins and ponds. One way Paramecium reproduce is by binary fission, or ‘splitting in two’.

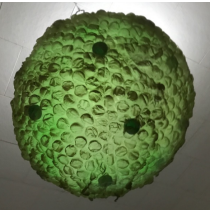


Algae (protists that photosynthesize)

Acetabularia (typical length 4 cm) - is a huge green algae found in saltwater. Acetabularia is gigantic for a single-celled organism, and is visible with the naked eye. The upturned cap resembles a broad, shallow cup giving them the name ‘mermaid’s wineglass’.



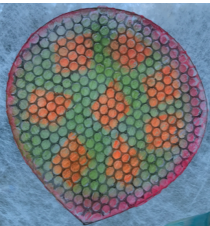
Peridinium - (typical length 0.1 mm) Peridinium is a genus of motile, marine and freshwater dinoflagellates with a distinctive armor. It is a single-celled algae that photosynthesizes. They are surrounded by very thick ‘armored’ plates called theca.



Euglena - (typical length 0.5 mm) Euglena is a genus of single-celled protozoa that can also make its own food in its chloroplasts. It has a long flagellum that it whips to swim through water. Euglena have a red stigma, or ‘eye spot’.



Diatoms (typical length 0.1 mm) - Diatoms are microscopic unicellular algae that make their own food. Their beautiful cell walls are made of silica. Diatoms are found in almost every aquatic environment on earth. Fossilized diatoms have been used in filters, insulation, abrasives, paints, varnishes, and as a base in Dynamite!



Didymosphenia (typical length 0.1 mm) Commonly known as ‘didymo’ or ‘rock snot’, Didymosphenia is a diatom that produces nuisance growths in freshwater rivers and streams with consistently cold water temperatures and low nutrient levels.

