

Ameba Coloring

The ameba is a protozoan that belongs to the Kingdom Protista. The name ameba comes from the Greek word amoibe, which means change. (Ameba is also spelled amoeba.) Protists are microscopic unicellular organisms that don't fit into the other kingdoms. Some protozoans are considered plant-like while others are considered animal-like. The ameba is considered an animal-like protist because it moves and consumes its food. Protists are classified by how they move, some have cilia or flagella, but the ameba has an unusual way of creeping along by stretching its cytoplasm into finger like extensions called pseudopodia. The word "pseudopodia" means "false foot". On the coloring sheet, there are several pseudopodia, use a yellow highlighter, marker, or pencil to highlight each of them (color around the outside of them). When looking at ameba under microscope, an observer will note that no ameba looks the same as any other; the cell membrane is very flexible and allow for the ameba to change shapes. Color the membrane red. Amebas live in ponds or puddles, and can even live inside people.

There are two types of cytoplasm in the ameba, the darker cytoplasm toward the interior of the protozoan is called endoplasm, and the clearer cytoplasm that is found near the cell membrane is called ectoplasm. (On the coloring, the endoplasm is indicated by the dotted area, and the ectoplasm by the white area.) Color the endoplasm blue, and leave the ectoplasm uncolored. By pushing the endoplasm toward the cell membrane, the ameba causes its body to extend and creep along. It is also by this method that the ameba consumes its food. The pseudopodia extend out and wrap around a food particle in a process call phagocytosis. The engulfed food then becomes food vacuole. There are several food vacuoles on the drawing-color each brown. The food will eventually be digested by the cells lysosomes.

Also visible in the ameba is the nucleus, which contains the amebas DNA. Color the nucleus purple. In order to reproduce the ameba goes through mitosis, where the nucleus duplicates its genetic material and the cytoplasm splits into two new daughter cells, each identical to the original parent. This method of reproduction is called binary fission. Another structure easily seen in the ameba is the contractile vacuole, whose job is to pump out excess water so that the ameba does not burst. Color the contractile vacuole orange.

During unfavorable conditions, the ameba can create a cyst, this hard-walled body can exist for a long period of time until conditions become favorable again. At this point it opens up and the ameba emerges. Often cysts are created during cold or dry periods where the ameba could not survive in its normal condition. Color the cyst green.

Amebas can cause disease. A common disease caused by the ameba is called Amebic Dysentery. A person becomes infected by drinking contaminated water. The ameba then upsets the person's digestive system and causes cramps and diarrhea. A person is most likely to be infected in countries where the water is not filtered or purified.

Questions:

1. How does an ameba move?
2. What structure contains the amebas DNA?
3. How does an ameba reproduce?
4. During unfavorable conditions, an ameba forms a _____.
5. Fingerlike extensions of the amebas cytoplasm are called _____.
6. What disease is caused by the ameba?
7. To what Kingdom does the ameba belong?
8. How are protozoans classified?

