



Amoeba Notes

- 1 The **amoeba** is a protozoan that belongs to the **Kingdom Protista**. The name amoeba comes from the Greek word "amoibe", which means change. (Amoeba is also spelled ameba.) When looking at amoeba under a microscope, an observer will note that no amoeba looks the same as any other because the **cell membrane** is very flexible and allows for the amoeba to change shape. *Color the cell membrane light blue.*
- 2 Protists are microscopic unicellular organisms that don't fit into the other kingdoms (fungus, plants, and animals). Some protozoans are considered plant-like while others are considered animal-like. The amoeba 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 amoeba has an unusual way of creeping along by stretching its cytoplasm into fingerlike extensions called **pseudopods**. (The word "pseudopod" means "false foot".) On the coloring sheet, there are several pseudopods - *use any color highlighter to color around the outside of each of the pseudopods.*
- 3 There are two types of cytoplasm in the amoeba, 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 drawing, the endoplasm is indicated by the dotted area, and the ectoplasm is the white area. *Color the endoplasm yellow, and leave the ectoplasm uncolored.* By pushing the endoplasm toward the cell membrane, the amoeba causes its body to extend and creep along. It is also by this method that the amoeba consumes its food. The pseudopods extend out and wrap around a food particle in a process call **phagocytosis**. The engulfed food then becomes a **food vacuole**. There are several food vacuoles on the drawing - *color the food vacuoles brown.* The food will eventually be digested by the cell's **lysosomes**.
- 4 Also visible in the amoeba is the **nucleus**, which contains the amoeba's DNA. *Color the nucleus purple.* In order to reproduce the amoeba 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 cell. This method of reproduction is called **binary fission**. Another structure easily seen in the amoeba is the **contractile vacuole**, whose job is to pump out excess water so that the amoeba does not burst. *Color the contractile vacuole orange.*
- 5 During unfavorable conditions, the amoeba can create a **cyst**, which is like a shell around the entire amoeba. 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 amoeba emerges. Often cysts are created during cold or dry periods where the amoeba could not survive in its normal condition. *Circle the cyst.*
- 6 Amoebas live in ponds or puddles, and can even live inside people. Amoebas can cause disease. A common disease caused by the amoeba is called **Amoebic Dysentery**. A person becomes infected by drinking contaminated water. The amoeba 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.