NAME _____

DATE _____

Introduction to Protista: Amoeba

In this activity, you will observe an amoeba, an example of a protist.

Proceed to a workstation and pick up a microscope slide. Observe the amoeba culture. Use a dropping pipet to remove a sample from the culture. Remove your sample from the bottom of the culture jar or from another area recommended by your teacher. To sample, squeeze the bulb of the pipet and lower the tip into the water to the area being sampled. Release pressure on the bulb to draw in the sample. Place 2–3 drops of the sample on a slide and gently cover with a coverslip. Examine under the low power objective of your microscope. Look for a relatively large, grayish mass whose shape is slowly changing. When you have located an amoeba, center it in the microscopic field, and swing the high power objective in place.

In the space below, draw an accurate outline of the amoeba you are viewing. Draw an outline only. Do not try to fill in details.

Study the amoeba carefully and note the following:

Pseudopodia (false feet) Lobes projecting from the main mass of the cell.

Plasmalemma or plasma membrane You will not actually see this membrane as it is very thin and requires a much higher magnification than your microscope provides; however, you will see a boundary line between the cell and its external environment. This boundary marks the plasmalemma.

Hyaline layer A clear, thin layer of cytoplasm just beneath the plasmalemma.

Plasmagel A gelatinous layer of granular cytoplasm just inside the hyaline layer; best seen in a pseudopod.

Plasmasol A fluid, granular layer that exhibits streaming movements with occasional reversal of direction; best seen in a pseudopod.

Contractile vacuole A clear, spherical structure that alternately appears, grows to large size, and suddenly disappears by discharging its contents through the plasmalemma into the surrounding medium.

Food vacuoles Spherical structures of various sizes, containing food in the process of digestion.

Nucleus A disk-shaped, granular body that is carried along in the plasmasol. Although its position changes within the cell, it is usually found near the center of the cell's mass.

Granules and crystals of various kinds in the cytoplasm.

Once you have identified these cell structures, draw another accurate outline of your amoeba in the space below.

1. Compare the two drawings you have made of the amoeba's outline. How has the amoeba changed? Are these changes related to its movement? If so, how?

2. Amoebas are sometimes referred to as animal-like protists. Based on your observations, list at least two characteristics that amoebas have in common with animals but not with plants.

Make a drawing of an amoeba, labeling the parts.

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