The Protist Kingdom

By Cindy Grigg

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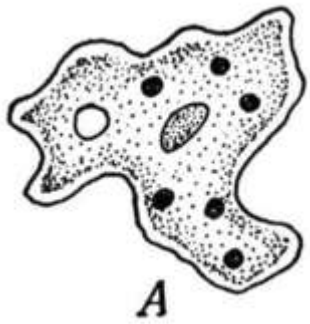
[1] The protist kingdom (or Kingdom Protista) is made up of one-celled (unicellular) organisms and simple many-celled (multi-cellular) organisms. All protists live in moist surroundings. In general, the protists include organisms whose cells have a nucleus enclosed by a membrane and who do not fit into the other kingdoms.



[2] Protists are mostly one-celled organisms. Some make their own food, but most take in or absorb food. Most protists move with the help of flagella, pseudopods, or cilia. Some protists, like the one-celled amoeba and paramecium, feed on other organisms. Others, such as the one-celled euglena or the many-celled algae, make their food by photosynthesis.

[3] Many of these protists can be found in a drop of pond or lake water. Because of the diversity of this kingdom, scientists often divide it into animal-like protists, plant-like protists, and fungus-like protists.

[4] The animal-like protists must get their food from other organisms. These are often called protozoans. They are able to move to get food. Some move by using pseudopods, or "false feet." Their cell membrane pushes outward in one place, and the cytoplasm flows forward into the bulge. They use pseudopods to move away from bright light or to trap food. They can extend pseudopods on either side and trap a food particle. The food is absorbed into the cell. Amoeba and sarcodines are examples of protists that move by pseudopods.

[5] Some animal-like protists move by using cilia. Cilia are hair-like projections that move with a wave-like pattern. The cilia move like tiny oars to sweep food toward the organism or to move the organism through water. An example of these is the paramecium.

[6] Zooflagellates are a third type of protists. They are animal-like and move by using flagella. Flagella are whip-like structures that spin quickly, working like a boat's propeller to move the organism through water. Most zooflagellates have from one to eight flagella that help them move. Giardia is a protist that moves with flagella. They can be found in freshwater streams and lakes. People who drink water containing this protist may become sick.

[7] Plant-like protists are commonly called algae. Some scientists prefer to classify

algae in the plant kingdom. Algae, like plants, can make their own food. Some live in the soil, some in the bark of trees, and some in water. Most of the oxygen in Earth's atmosphere is made by algae living in the oceans. They are an important source of food for other organisms. Giant kelp, one example of the plant-like protists, can grow to one hundred meters long. Giant kelp can form large underwater "forests" where many organisms like sea otters and abalone live. Red tides can occur when a population of algae increases quickly in ocean waters. These algae often make the water appear red but may be brown, green, or colorless. Some algae can secrete poisons that kill ocean animals.

[8] Fungus-like protists include water molds, downy mildews, and slime molds. Water molds and downy mildews can attack food crops and fish. Slime molds feed on bacteria and other microorganisms. Like fungi, these fungus-like protists must get food from other organisms. They also use spores to reproduce.

[9] Organisms in the Kingdom Protista are very different from each other. They are grouped together partly because they just don't fit into any other kingdom.

Name _____ Science Pd: _____

The Protist Kingdom

1. In general, the Kingdom Protista contains:
   (A) Organisms that make their own food
   (B) Organisms with a membrane-enclosed nucleus and who don't fit in any other kingdom
   (C) Organisms that must get their food from other organisms

2. Most protists move with the help of:
   (A) Muscles and bones
   (B) Cilia, flagella, or pseudopods
   (C) Euglena and amoeba

3. You would find most protists living in:
   (A) A desert
   (B) Antarctica
   (C) A moist environment

4. What does pseudopod mean?
   (A) False animal
   (B) False foot
   (C) Making seed pods

5. What are pseudopods used for?
   (A) Moving
   (B) Trapping food
   (C) Both a and b

6. What are cilia?
   (A) Hair-like projections
   (B) A type of chemical in the cell
   (C) Silly feet

7. What are flagella?
   (A) Whip-like structures that spin quickly
   (B) Flags that show protists where to go
   (C) False feet