The Protists

Paramecium:

The anterior end of a Paramecium is rounded and the posterior end is pointy.
You may not be able to see the structures that provide its mode of locomotion--if not, be sure to look it up.

1. Make a formal microscope drawing (following all the rules.)
   Label the: Anterior end, Posterior end, Oral groove, Macronucleus

2. Answer the following:
   a.) Describe the shape of the specimen.
   b.) Describe the speed of the Paramecium.
   c.) Describe the motion of the Paramecium (how it moves.)
   d.) Does the specimen have pseudopodia, flagella, or cilia?
   e.) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?

Amoeba:

1. Make a formal microscope drawing (following all the rules.)
   Label the: Structure used for locomotion, Cytoplasm

2. Answer the following:
   a.) Describe the shape of the specimen.
   b.) Describe the speed of the Amoeba.
   c.) Explain the "streaming" of the cytopasm.
   d.) Describe the motion of the Amoeba (how it moves.)
   e.) Does the specimen have pseudopodia, flagella, or cilia?
   f.) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?

Volvox:

Unicellular protists are a single cell.
Colonial protists are a mass of cells that move as one body, but remain individual cells. They usually have flagella.
Filamentous protists are multiple cells joined end to end and are not motile.

1. Answer the following:
   a.) Describe the shape of the specimen.
   b.) Does the specimen have pseudopodia, flagella, or cilia?
   c.) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?
   d.) What evidence is there (in the specimen) of photosynthesis?
   e.) Is the specimen unicellular, colonial, or filamentous? How do you know?

Euglena:

The anterior end of a Euglena is the end that has the locomotive structure. The posterior end of the Euglena is opposite the end of the specimen that has the locomotive structure and is somewhat pointy.
The Euglena has a light sensing structure called an eyespot. It is a red colored structure.
Unicellular protists are a single cell.
Colonial protists are a mass of cells that move as one body, but remain individual cells. They usually have flagella.
Filamentous protists are multiple cells joined end to end and are not motile.

1. Answer the following:
   a.) Describe the shape of the specimen.
   b.) Does the specimen have pseudopodia, flagella, or cilia?
   c.) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?
   d.) What evidence is there (in the specimen) of photosynthesis?
   e.) Is the specimen unicellular, colonial, or filamentous? How do you know?

Spirogyra:

1) Make a formal microscope drawing (following all the rules.)
   a) Label the: Cell, Chloroplast
2) Answer the following:
   a.) Describe the shape of the specimen.
   b.) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?
   c.) Is the specimen unicellular, colonial, or filamentous? How do you know?

Diatoms:

Diatoms consist of two pieces called valves that fit into each other.
Their walls are made of silica and so they appear to be like glass.
There are two types of Diatoms, pennates and centric.

1. Answer the following:
   a.) Describe the shape of the specimen.
   b.) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?
   c.) Is the specimen unicellular, colonial, or filamentous? How do you know?

Desmids:

Symmetry: Balanced, equal on all sides.
Two halves of a Desmid are separated by suture lines or by constrictions called an Isthmus. (See Appendix A for diagram of this.)

1) Make a formal microscope drawing (following all the rules.)
   a) Label the: Semi cell, Suture lines or Isthmus
   b) Draw in the lines of symmetry.
2) Answer the following:
   a) Describe the shape of the specimen.
   b) Is the specimen a Protozoan, Algae, or Slime mold? Which phyla does it belong to? How do you know?

Radiolarians

1. Make a formal microscope drawing (following all the rules.)
    a. Label the types of radiolarians you saw.
2. Answer the following
    a. Are they protozoans, algae, or slime molds? How do you know?
    b. What phyla of protists are they?

Foraminifera

1. Answer the following
    a. Are they protozoans, algae, or slime molds? How do you know?
    b. What phyla of protists are they?
    c. Name the types of foraminifera you saw.

Trypanosomes

They belong to the genus *Trypanosoma.*
Trypanosomes typically live as an parasite in the bloodstream of a vertebrate and cause serious diseases in humans or domestic animals. The trypanosomes cause African sleeping sickness and are transmitted by tsetse flies.

1. Make a formal microscope drawing (following all the rules.)
    a. Label a trypanosome and a blood cell.
2. Answer the following
    a. Are they protozoans, algae, or slime molds? How do you know?
    b. What phyla of protists are they?

Physarum

Physarum is a slime mold that inhabits shady, cool, moist areas, such as decaying leaves and logs.. They are yellow in color.
Physarum Polycephalum demonstrates a surprising amount of intelligence for a single-celled creature. Researchers claim that a specimen of *P. polycephalum* was able to travel through a maze made of when food was placed exits of the maze.

1. Answer the following
    a. What phyla of protists are they?