Paramecium Observation Lab

Note: this lab is completed online. Visit the following address and click on “Lab 2”

http://labs.7bscience.com/protist-labs.html

Purpose:
• To observe paramecium and how they move
• To identify the parts of an paramecium

Part One - Background
Today you will observe another protist. In the previous lab (online or in class) you observed a type or protist called a protozoan. Recall that protozoans are animal-like protists. That is, they have similar characteristics to animals. Mainly, they are heterotrophs and they must hunt for their food.

Recall that protozoans can be classified by how they move. In the last lab you observed a type of sarcodine called an amoeba. All sarcodines move by using pseudopods, or temporary bulges in the cell membrane.

The protozoa you will observe today is called the paramecium. A paramecium is unicellular and moves by using ____________________. Cilia are ____________________ structures that are found on the surface of the organism. Cilia have three uses: 1. ____________________, 2. ____________________, 3. _____________________. Observe the video on the web site to see the cilia move on the paramecium.

Part Two - Cell Structures
Identifying structures in the paramecium is rather simple! As you read the information, fill in the blanks on your worksheet and identify the structures on your diagram.

First, observe the outside of the organism. What appears to be the cell membrane is actually a part called the ____________________. The pellicle is a ____________, outer ____________________ that helps give the paramecium its ____________. Unlike the amoeba, the paramecium is not able to change shapes (although it can bend and twist). Just below the pellicle you will find the ____________ ____________________.

On the surface of the organism are short hair-like structures are the _________________.
As you already learned, the cilia have three functions: to help the paramecium move, to help
it capture food, and to help it sense the environment. Also on the surface you will find an indentation called the ________________. The oral groove is lined with ________________ to help the organism capture ________________. At the end of the oral groove is where the paramecium takes in its food through ________________. The food enters the organism and becomes trapped in a ________________. The vacuole stores the food and is broken down when it combines with a ________________. You may also be able to observe a part on the surface called the ____________. The anal pore is where the ___________ leaves the organism.

Inside the organism you will also note a star-shaped organelle. This is the ________________. As with the amoeba, the contractile vacuole collects and removes excess ________________. You can observe the contractile vacuole work in the video. Also inside you will find not one but TWO ________________. The large nucleus controls the ________________ of the cell. The large nucleus is visible and is a slightly different color from the rest of the organelles. The small nucleus only controls ________________.

Paramecium can reproduce in two ways: asexually through ________________ and sexually through ________________. In our bacteria unit we learned what binary fission and conjugation are. The same processes are true for paramecium. In binary fission, the cell splits in two and each cell receives the same copy of DNA from the parent cell. In conjugation, the paramecium shares genetic material with another paramecium before splitting. After splitting, each paramecium now has different DNA than the parent originally had.
Part Four - Labeling the Diagram
Label the diagram below with the following parts: anal pore, contractile vacuole, cytoplasm, cilia, food vacuole, oral groove, pellicle, large nucleus, small nucleus