

**Assessment of Classroom Teaching
Science Education
Virginia Tech**

Intern:	Ashley Grapes	Date:	4/8/11
Name of Lesson:	Protist Lab	School/Grade:	Salem High School/ 10 th grade Biology
Observer:	Jessica Stephenson		

1. How was the lesson constructed and organized?

This lab is part of an explore/explain unit on Protists. The lab is partly review of previous lectures, and culminates with identifying unknown Protists as plant, animal, or fungus-like. The lab is set up in seven sections, each with multiple microscopes. The students at each station draw what they see in the microscope on their lab sheets and answer questions on the lab handout. After a specified time, the students rotate groups, so that each student moves through all of the stations.

Ashley did a great job of explaining how the lab would work at the beginning of class, and setting her expectations for student behavior. She was very explicit about how the students were to work in groups of four, how they were to rotate, and that each student needed to look in each microscope at the stations.

2. What strategies did the teacher use for engaging students?

Ashley took a standard identification lab and made it into a “mystery” lab, in which the students were challenged to determine what the unknown Protists were. Using microscopes, slides, and live Protist samples, the students were every interested in using the lab materials and drawing their observations. Ashley reminded students of prior lessons about Protists to activate their prior knowledge for the lab.

The lab activity sheet had varied questions, in addition to color-coding structures of the amoeba and paramecium. The students were very interested in identifying these structures on their slides, and were excited when they found them.

3. How did the teacher manage and monitor student learning?

Ashley wandered through the lab groups and constantly checked on student progress, answering questions and observing student drawings. When students needed help re-adjusting the microscopes, she assisted them, also helping them find the live Protists on slides. Ashley’s questions helped lead the students to their own answer, rather than answering their questions directly. Ashley used large-class discussion to help the class remember the differences between plant-like and animal-like Protists (“What would you expect to see in a plant-like Protist? How would that be different than an animal-like Protist?”).

4. How did the students respond to the activities?

The students were actively participating in the lab, talking quietly to each other in their lab groups, making observations, and sharing their drawings with each other. Also, the students asked a lot of great questions about what they were observing, and appeared to be interested in the exploration of the Protist lab.

5. What are suggestions for this lesson and for future planning?

This was a very detailed lab, and it's obvious that you put a lot of work, effort, and planning into it! The lab activity sheet had a great variety of questions which were open-ended and application-based. I liked the way you had the students color-code the diagrams of each Protist, and you did an excellent job of having students defend their answers ("Are these plant, animal, or fungus-like? What led you to this decision?").

Also, you're doing an excellent job at helping students learn new vocabulary by giving them specific applications of these words, and diagrams of how these structures work. This was a fantastic inquiry-based lab, and I could see it working for college students as well as high school students. Labs like this are extremely valuable in the classroom, despite how difficult they are to set up in the beginning. You did an expert job of executing this lab in your classroom—great work!