

Biology with Microscope Lab

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Welcome to Apologia's Biology! We will spend this year learning about the delicate balance that makes life possible on this planet. I am excited to explore God's design with you!

Course Description and Student Responsibilities: Students will have readings assigned and pages in the notebooking journal that will need to be completed before class each week. They are expected to take notes during the reading to serve as reference during the discussions and to bring their notebooking journals each week. We will spend class time reviewing the material, answering questions, and performing experiments to further our understanding. Students must come to class prepared to fully participate in both discussions and experiments with a willing attitude. Students are always welcome to email or call me with questions or for further help with any concept.

Course Curriculum:

1. REQUIRED:

2. STRONGLY RECOMMENDED:

3. INDIVIDUAL PREFERENCE: I will not administer or grade tests for this class. All testing is the responsibility of the parent.

Microscope Requirements: The co-op does not provide microscopes for this course. Students will work in pairs or groups of 3 in the microscope portion of this class. If you have a microscope or were planning to purchase one for your family, please let me know. My goal is to have enough microscopes that no one will be required to buy one if they were not already planning to. Your microscope will need to have the following:

- 3 objectives - these are the things that stick down toward the slide and actually "see" the slide. The eyepiece (that you look through) typically has a magnification of 10X and the objectives have a magnification of 4X, 10X, and 40X. If you multiply them together, you have a total magnification of 40X, 100X, and 400X. Some websites may list the magnifications for the eyepiece and objectives separately, others may list the total magnifications.

- illuminated base - this is the part underneath where you put the slide. It is hard to find a microscope that doesn't have a light bulb, but they do exist and will not be helpful for what we will do. The microscope may have a cord or batteries, but if you have batteries, you will need to make sure your student has back-up batteries for each lab.

- course and fine focus knobs - these are pretty standard on any microscope that has the correct objectives, but make sure you have both

- mechanical stage - this makes it easier to move the slide across the stage and keeps the slide from moving if the microscope is bumped

*Nice to have, but not essential: binocular eyepiece - so both eyes can look at the specimen

We will have a secure place to store the microscopes at co-op, so you will not have to bring it back and forth each week.

I will have a detailed syllabus as soon as possible.