

Exploring Creation with Biology

I've included 2 samples of lab reports at the end to give you an idea of what their lab reports should look like. I've also included 2 papers or 1 paper and 1 project into the syllabus in order to count this course as honors.

Exploring Creation with Biology Schedule

Updated May 2005

Remember that Dr. Wile is available by email, phone, online, or fax if you need help.

Websites

The Virtual Cell - (excellent graphics!!!) <http://personal.tmlp.com/Jimr57/textbook/chapter3/chapter3.htm>
CELLS II: CELLULAR ORGANIZATION - <http://gened.emc.maricopa.edu/> - then click Biology and Cell II – Cellular Organization
TRANSPORT IN AND OUT OF CELLS - <http://gened.emc.maricopa.edu/> - click Biology and then Transport in and out of cells

Dissections sites:

Earthworm - <http://www.d91.k12.id.us/www/skyline/teachers/robertsd/z-worm.htm>
Pig - <http://mail.fkchs.sad27.k12.me.us/fkchs/vpig/> and http://www.whitman.edu/offices_departments/biology/vpd/main.html
Frog - <http://www-itg.lbl.gov/vfrog/> and <http://curry.edschool.virginia.edu/go/frog/menu.html> and <http://www.cellsalive.com/> and <http://www.froguts.com/>
Cows eye - http://www.exploratorium.edu/learning_studio/cow_eye/
Sheep brain - <http://academic.uofs.edu/department/psych/sheep/>
Perch - <http://www.flushing.k12.mi.us/srhigh/tippettl/biology/perch/index.html>

Addendum by Donna Young: Schedule by Sheri Neely (Thank you Sheri! ☺)
Updated May 24, 2006: Replaced dates with blanks. ~ Donna Young

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Check off date when all work has been completed for that day.

- _____ - Read pages ii-iv. Read/study p. 1-3; Memorize bold text p.1. If you missed what he said about bold text or centered text, re-read p. iii (top). Learn definitions: DNA, metabolism, herbivores, carnivores, omnivores. Please look over your definitions everyday. Test day will be a lot easier if you do! Buy raddish seeds now. We'll need them much later when they won't be in season to buy.
- _____ - Read/study p. 4-6. Do "On Your Own" questions (OYO) on p. 6 - Write the answers in your science notebook. Label the page "On Your Own Questions", then put 1.1 and write the answer for 1.1, etc. Correct these answers (p.33). Always go over the ones you missed. Definitions to memorize: producers, consumers, decomposers, autotrophs, heterotrophs. Study boldface phrases and terms.
- _____ - Read/study p. 6-8. Do OYO questions p. 8; correct using p. 33. Memorize definitions: receptors, asexual reproduction, sexual reproduction, inheritance, mutation.
- _____ - Read/study p. 8-11. Do OYO questions on p. 12; correct them. Definitions: hypothesis, theory, scientific law. Study boldface terms/phrases. Study Figure 1.3.
- _____ - Read/study p. 12-14. Definitions: microorganisms
- _____ - Read/study p. 15-19. Do OYO questions p. 19; correct them. Memorize bold text p. 18 (Class. groups) Definitions:abiogenesis. Review all definitions for the chapter.
- _____ - Read/study p. 19-21. Do OYO questions p. 21; correct them. Study the classification order. Before every test, make sure you've really studied the OYO for the chapter, memorized the bold text and terms, really know the study guide questions well, and have read/reviewed the chapter carefully including the Figures and Tables.
- _____ - Read/study p. 21-top of 26. Study terms and bold text for entire chapter. Review all of the OYO questions for the chapter using the correct answers in the book. Make sure you really study the OYO questions. Definitions: prokaryotic cell, eukaryotic cell, species, taxonomy, binomial nomenclature. Memorize the Classification Hierarchy: K, P, C, O, F, G, S. Make sure lab notebook is ready for tomorrow.
- _____ - **Meet together for Experiment 1.1 and 1.2 at _____, time.**
Have lab notebook ready - review p. iii.
Bring Apologia book, lab notebook (I recommend a ½ - 1 inch 3-ring binder), pencil, colored pencils.

- Read through the experiment entirely before starting.
- Start a new page in your laboratory notebook for each experiment. At the top of the page label the experiment - for example, Experiment 1.1 Using A Biological Key.
- Next, write "Data" and write down all data taken during the experiment and perform any exercises discussed in the experiment.
- After the data, put "Summary" and write a brief report/summary of what was done and what was learned.
- Do this for all experiments. Two examples of lab write ups are at the end of the schedule.

Experiment 1.1 - Using a Biological Key - p. 26-28. Do the experiment. Correct your work when you finish. Write summary.

Experiment 1.2 - Introduction to the Microscope - p. 30-32. Supplies: microscope, lens paper, slides, cover slips, cotton swabs, dropper, water, bright thread, methylene blue stain. Follow directions carefully. Write summary when finished.

Pass out vocab sheets – from Donna Young's website.

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_____ - Do Study Guide on p. 35-36, correct. Make sure you understand it all! Go over ones that you missed and correct them. If you missed more than 2, tell mom. Study, study, study. Use vocabulary sheet to study vocab. (from www.donnayoung.org) Any mold in the refrig?? Keep it for lab in a few weeks.

_____ - **Module I test.** When finished, give test and lab notebook to mom to grade.

_____ - Correct Module 1 test (ones you missed). Give back to mom. Read/study p. 37-41.

Draw Figure 2.1 in your notebook. Do OYO on p. 41, correct them. Know shapes on p. 39.

Definitions: pathogen,

_____ - Read/study p. 41-44; OYO p. 44, correct. Terms: saprophyte, parasite, respiration, aerobic respiration, anaerobic respiration

_____ - Read/study p. 44-47; OYO p. 47, correct. Study Figures and terms.

_____ - 5 – Labor Day Holiday

_____ - Read/study p. 47-49; OYO p. 49, correct. Study Figure and terms.

_____ - Read/study p. 49-51; OYO p. 51, correct. Study Figure and terms. Look at sentence on p. 51 above OYO. “We do expect you to be able to determine the shape of a bacterium when it is a part of the name.”

_____ - Read/study p. 51-54; OYO p. 54, correct.

_____ - Read/study p. 54-59; OYO p. 56, correct. Definitions: Review all definitions for the chapter. Study Table 2.1 very well. Also make sure you study this page very well.

Everyone - **Start growing mold for Exper. 4.3. Bread, jelly, and fruit.**

Have someone collect the pond samples on Sat. or Sun. from Exper. 2.1 and bring the jars to lab on the 14th? It’s best to collect the specimens and then look at them 3-5 days later so if you could do this on Sat. or Sunday, that’d be great.

_____ - Read Exper.2.2 p. 60-61. Study all OYO for the entire chapter.

_____ - Do Study Guide, p. 65, correct. Study for test: all terms, bold text, figures, etc.

_____ - **Lab at _____.** Meet together for Experiment 2.2, p. 60-61.

Supplies:

- Microscope
- Slides and cover slides – Sheri has these
- Cultures collected at pond
- 4 droppers – Sheri has these
- Small amount of cotton – Sheri has this
- Apologia book/lab notebook/pencil/colored pencils

Do experiment. When finished, write a summary in lab notebook

_____ - Review. Do **Module 2 Test.** Give test and lab notebook to mom to grade.

_____ - Correct test – ones you missed. Give back to mom. Read/study p. 67-70. Do OYO questions p. 71; correct.

_____ - Read/study p. 71-74 making sure to study the “Figures” (in boxes) very well too. Do OYO questions p. 74; correct. Draw Figure 3.2. Definitions: pseudopod, nucleus, vacuole, ectoplasm, endoplasm

_____ - Read/study p. 74-78. Do OYO questions p. 78; correct. Draw Figures 3.4 and 3.7.

Definitions: flagellate, pellicle, chloroplast, chlorophyll, eyespot, symbiosis

_____ - **Lab at _____.** Meet together for Experiments 3.1-3.3

Supplies: Prepared slides of Amoeba, Paramecia, Euglena and Volvox, Spirogyra and Diatoms, Pond jars,

Apologia book, lab notebook, pencil, colored pencils. Record everything in lab notebook. Write a summary.

Need molds that you’ve grown, a mushroom, shelf fungi (always use caution when handling fungi), a puffball AND a pkg. of active dry yeast for Oct. 12. Who can bring these?

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- _____ - Read/study p. 78-80. Do OYO questions, p. 80, correct. Study terms and figures.
- _____ - Read/study p. 80-83; OYO p. 83, correct. Study figures and terms.
- _____ - Read/study p. 83-87; OYO p. 87, correct. Study figures and terms.
- _____ - Read/study p. 88-90. Do OYO questions p. 89 and p. 90; correct all. Study Figures and definitions: plankton, zooplankton, phytoplankton, thallus, cellulose, holdfast, sessile, colony. Study all definitions for the chapter.
- _____ - Read/study p. 90-94. Do OYO questions p.92; correct. Study all OYO for chapter.
- _____ - Study guide for Module 3, p. 97-98; correct. Go over wrong answers. Miss > 2, tell mom.
- _____ - **Module 3 Test.** Give test and lab notebook to mom to grade.
- _____ - Correct test. Give back to mom. Read/Study p. 99-103; OYO p. 103, correct. Definitions: extracellular digestion, mycelium, hypha, rhizoid hypha, aerial hypha, sporophore, stolon, haustorium, chitin. Study Figures 4.1,4.2,4.3. Study boldface terms.
- _____ - Read/study p. 103-105; OYO p. 104,105 – correct. “Learn the characteristics that separate organisms into these phyla.” p. 105.
- _____ - Read/study p. 105-108. Study terms, figures.
- _____ - Read/study p. 109-111; OYO p. 111, correct.. Study tables and figures. Study terms. Draw Figure 4.5.
- _____ - School Holiday. ☺
- _____ - Read/Study p. 111-115; OYO p. 115, correct. Study terms.
- _____ - Read/study p. 115-120; OYO p. 116 and 121, correct. Know Definitions. Review all definitions for chapter.
- _____ - **Lab at _____.** Experiments 4.1-4.3
Need a mushroom, shelf fungi, pkg. of active dry yeast and molds grown.
Remember lab notebook, book, pencils.
Summarize each experiment.
- _____ - Read/study p. 121-123; OYO p. 123, correct. Definitions. Study all OYO questions with the correct answers in the book.
- _____ - Read/study p. 123-124; OYO p. 124, correct. Study all definitions and figures.
- _____ - Do Study Guide for Module 4, p. 127; correct. If you miss > 2, tell mom. Go over wrong answers. Study definitions and review well. Study all tables and figures.
- _____ - Review, **Module 4 Test.** Give test and lab notebook to mom to grade.
- _____ - Correct test. Give back to mom. Read/study p. 129-132; OYO p. 132, correct. Definitions and Figure 5.1.
- _____ - Read/study p. 132-134; OYO p. 134, correct. Definitions and Table 5.1.
- _____ - Read/study p. 134-137; OYO p. 135 and p.137, correct. Definitions.
- _____ - Read/study p. 137-142; OYO p. 142, correct. Definitions.
- _____ - Read/study p. 142-144; OYO p. 144, correct. Definitions and chemical formulas.
- _____ - Read/study p. 144-146; OYO p. 146, correct. Definitions and chemical formulas.
- _____ - Read/study p. 146-150; OYO p. 151, correct. Definitions, Figures 5.3 and 5.4. Start reviewing the chapter. Tell mom need **fresh** pineapple for next Wed..
- _____ - Read/study p. 151-152; OYO p. 152, correct. Definitions and Figures 5.5-5.6. Study terms, figures, etc. for test. Have someone do the potato experiment 5.1 (p. 138-139) at home the morning of Nov. 2 and bring it to lab on Nov. 2. It takes at least 2 hours to sit – he said longer would be better. That person needs to also bring a slice that hasn’t been in any water so we can see how it bends.
- _____ - Read/study p. 152-154; OYO p. 154, correct. Definitions and Figure. Start reviewing definitions. Make sure you can write them down.
- _____ - Then, read/study p. 154-158; OYO p. 158, correct. Definitions and Figure 5.8. Please remember to do

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the 5.1 Exper. at home and bring it tomorrow. Thanks. Someone needs to start Exper. 5.2 that morning (before lab that afternoon). Please tell mom.

_____ – (_____, do pineapple in the morning.) Lab at _____.

Exper. 5.1-5.2. Any questions? Any problems with OYO, etc.?

_____ - Read/study p. 159-161; OYO p. 161, correct. Draw DNA strand with color.

Definitions and Fig. 5.9 and 5.10. Review all OYO questions using the correct answers in the book.

_____ - Study Guide for Module #5, p. 164-165. Go over wrong answers. Review the chapter really well going over all bold terms, tables, and figures

_____ - Review well. **Module 5 Test.** Give test and lab notebook to mom to grade.

_____ - Correct test; give back to mom.. Read/study p.167-169; OYO p. 170, correct. Definitions. There's A LOT of definitions in this chapter – start memorizing early!! **Who can bring cork, Anacharis leaves (aquatic plants sold where goldfish are sold) or Impatiens leaves, banana to lab on 16th?**

_____ – Read/study p. 170-174, Definitions.

_____ - Read/study p. 175-180; OYO p. 180, correct. Definitions and Figure 6.2. Review p. 167-180.

_____ - Read/study p. 181-186; OYO p. 186, correct. Study carefully Figures 6.3-6.5. Start reviewing definitions for the chapter.

_____ - Read/study p. 187 –192; OYO, p. 192, correct. Review p. 180-190 Definitions and Fig. 6.6. Review all OYO for chapter.

_____ - Read/study p. 192-194; OYO p. 194-5, correct. Study and draw Fig. 6.7 with RNA strand. Review p. 190-195. Review all definitions for chapter.

_____ – **Lab at _____.** Experiment 6.1 and 6.2 - Need Onion, Cork, Anacharis leaves or Impatiens leaves, and banana. Bring book, lab book, pencils. Any questions?

_____ - Read/study 195-200; OYO p. 199, correct. Definitions and Fig. 6.8-6.9. Review all tables and figures in the chapter. Review all OYO thoroughly using the answers on p. 201-203! Study hard. It's a hard chapter. Dr. Wile has an alternate test with a matching definition part.

_____ - Study Guide for Module 6, p. 204 - definitions only, correct.

_____ - Study Guide for Module 6, p. 205, correct. Make sure you know this. Correct the ones you missed. Tell mom if you missed more than 2.

_____ – Review. **Module 6 Test.** Give test and lab notebook to mom.

_____ – 25 – Thanksgiving Break

_____ – Correct test; give back to mom. Read/study p. 207-211. OYO p. 212, Correct. Definitions: be able to define bold terms. **Need Whitefish Blastula slide,**

<http://www.uoguelph.ca/zoology/devobio/210labs/mitosis1.html> **OR** http://biog-101-104.bio.cornell.edu/BioG101_104/tutorials/cell_division/wf_review_fs.html, **clear dish soap, fresh meat tenderizer, rubbing alcohol, and onion for Wed.**

_____ - Read/study p. 212-217. Do OYO, p. 217; correct. Study Figure 7.2 and 7.3 and definitions.

_____ – **Lab at _____.** Experiment 7.1 and 7.2. Need clear dish soap, fresh meat tenderizer, rubbing alcohol, onion, flashlight, allium root tip slide. Remember to draw pictures, answer questions, and write a summary in your lab notebook.

_____ - Read/study p. 217-219. OYO p. 219, correct. Study 7.4 and definitions. Review p. 207-219. Review definitions for the entire chapter.

_____ – Read/study p. 220-225; OYO p.225, correct. Study Figures 7.6-7.8 and definitions. Review all OYO questions with correct answers on p. 230-231.

_____ - Read/study p. 225-229. OYO p. 229, correct. Study Figures 7.9-7.10 and definitions.

_____ - Study guide for Module 7, p. 232-233. Correct. If you miss more than 2, always tell mom. Go back and correct the ones you missed. Make sure you understand everything.

Note on study guide question:

Summary:

In the study guide for biology Module #7, question 12, why are only 4 cells produced. Shouldn't it be 8?

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Article:

Only 2 cells are undergoing Meiosis 2. Thus, they produce 4 cells in the end. The "prior to meiosis 1" reference was just there to let you know what their diploid number was. In the question, you have 2 cells. They already underwent meiosis 1. Now they are ready for meiosis 2. If you have 2 cells undergoing meiosis 2, only 4 cells will result.

Now, if you have 2 cells undergoing meiosis 1 and then meiosis 2, certainly 8 cells will result. That, however, was not the question. The question says that 2 cells undergo ONLY meiosis 2. Since meiosis 2 takes one haploid cell with duplicated chromosomes and makes 2 haploid cells with duplicate chromosomes, then when 2 cells undergo meiosis 2, 4 cells will result.

_____ - **Module 7 Test.** Give test and lab notebook to mom.

_____ – Correct test. Write a 2 page paper, typed and double spaced, on any topic or scientist in this book.

You may want to write on something you've already studied that was interesting to you. Please center the title at the top of the page in a larger font, put your name centered underneath the title in a little smaller font. Please indent your paragraphs and do spell check before turning in your paper. Also, please do not plagiarize (copying something word for word). It's illegal! You need to put everything in your own words. Make sure and document the resources you have used at the end of your paper.

Give it to your mom to grade.

_____ – I know this is bad timing but you need to write another 2 page typed paper or do a science fair type project. It's either now or at the end of May which I'm sure you don't want to do. Please bring both papers to lab on January 11th. We'll read them out loud.

_____ - Christmas Break

_____ - Correct Module 7 test; give back to mom. Read/study p. 235-241. Study Figures 8.1-8.4; bold text p. 239 and definitions. OYO p. 242, correct.

_____ - Read/study p. 242-247. OYO p. 245 and 248, correct both. Study definitions; bold text p. 243-44. Study Examples 8.1-8.2 and definitions. You really need to work out these examples with paper and pencil on your own to make sure you really understand it.

_____ - Read/study p. 248-251. Study Figure 8.5, Example 8.3, and definitions. OYO p. 251, correct.

_____ - Read/study p. 251(bottom)-253. OYO, p. 253, correct. Study Ex. 8.4 and definitions. Review definitions for chapter. **Order earthworms, Crayfish, frogs, and perch (need Feb. 15 and after). We will divide the amount between us. Need egg crate and potting soil for lab on Wed.**

_____ - Read/study p. 253(bottom)-259(top). Study and work out Examples 8.5-8.7 and definitions. Review all OYO questions with correct answers on p. 265-66

_____ - Read/study p. 259-263. Study all terms for entire chapter.

_____ - Study guide for Module 8, p. 269-271. Correct. Miss >2? Tell mom. Correct wrong ones making sure you understand everything. Study for test. Bring papers/projects to lab on Wed.

Note on study guide question:

Summary:

In biology Module #8, Study Guide question 12, wouldn't the answer be a "change in chromosomal structure," and not "change in chromosomal number?"

Article:

No. It is change in chromosome number. If a gamete has 2 alleles for a trait, it must have 2 chromosomes for that trait. When that gamete joins with another gamete, the result will be three chromosomes, which is one too many. Remember, each normal gamete carries one chromosome per pair, and thus has one allele per trait. That way, when fertilization happens, there are two chromosomes per pair and thus two alleles per trait.

_____ – **Lab at _____.** **Experiment 8.1 and 8.2.** Bring papers/projects prepared to read out loud. Study definitions.

Remember to draw pictures, answer questions, and write a summary in your lab notebook

_____ – **Module 8 Test;** give test and lab notebook to mom.

_____ – Student holiday

_____ – Student holiday

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- _____ - Correct Module 8 test; give back to mom. Read/study p. 273-278. OYO p. 278, correct. Make sure you read this well even though you may know it.
- _____ - Read/study p. 279-282. OYO p. 282, correct. Study definitions.
- _____ - Read/study p. 282-285. OYO p. 285, correct. Study Figure 9.1 Make sure you understand this table and amino acid sequencing; study def.
- _____ - Read/study p. 286-291. OYO p. 291, correct. Study Figure 9.2-9.3 and definitions
- _____ - Read/study p. 292-294. OYO p. 294, correct. Study Figure 9.4 and def.
- _____ - Read/study p. 294-299. OYO p. 299, correct. Study Tables 9.1-9.4 and definitions. Review all OYO questions for the chapter using the correct answers.
- _____ - Read/study p. 299-303. OYO p. 301, correct. Study definitions for entire chapter. Review Darwin.
- _____ - Study Guide Module 9, p. 306-307. Correct. Miss >2? Tell mom. Correct wrong ones making sure you understand everything.
- _____ - Test for **Module 9**. Give test and lab notebook to mom.
- _____ - Correct Module 9 test; give back to mom. Read/study p. 309-315. Study Figure 10.1 and definitions. OYO p. 315, correct. Study Figures 10.2-10.3 (be able to draw these – know how they work) and definitions; bold text p. 313.
- _____ - Read/study p. 315-320. OYO p. 320, correct. Study the Symbiotic relationships in Figures 10.4-10.6 and definitions
- _____ - Read/study p. 320-324. OYO p. 321 and 324, correct. Study Figures 10.7- 10.8 and definitions. Review p. 309-324 using the correct answers on p.334-335. Study all terms for chapter.
- _____ - Read/study p. 324-326. OYO p. 326, correct. Study Figure 10.9 and def. Review all OYO questions using the correct answers on p.334-335.
- _____ - Read/study p. 326-333. **Do Experiment 10.1 at home** OYO p. 332, correct. Study Figures 10.10-10.11 and definitions. Remember to write it up in your notebook. Study definitions for chapter.
- _____ - Study guide for Module 10, p. 336-337. Correct. Miss >2? Tell mom. Correct wrong answers making sure you understand everything
- _____ - **Module 10 Test**. Give test and lab notebook to mom.
- _____ - Correct Module 10 test. Read/study p. 339-341. OYO p. 341, correct. Study Figures 11.1-11.2 and definitions.
- _____ - Read/study p. 341-345. OYO p. 345, correct. Study Figure 11.3 and definitions. Know which Phyla all these animals are in.
- _____ - Read/study p. 345-352, OYO p. 352, correct. Study Figures 11.4-11.6 and definitions. Know which Phyla all these animals are in.
- _____ – Happy Valentine’s Day. No science. We love you.
- _____ - **Lab at _____**. Experiment 11.1 - Experiment 11.2 - Dissection of earthworm and Experiment 11.3 Need colored pencils. Remember to draw pictures, answer questions, and write a summary in your lab notebook
- _____ - Read/study p. 352-358. OYO p. 358, correct. Draw and label Figure 11.7. Study Figure 11.8 and definitions. Review all definitions for chapter.
- _____ - Read/study p. 358-367. OYO p. 363 and 366, correct. Review all OYO for the chapter.
- _____ – School Holiday
- _____ - Study guide Question #1 only, p. 370 - Definitions only
- _____ - Study Guide p. 370-72. Correct. Miss > 2? Tell mom. Correct wrong answers making sure you understand everything. Study the earthworm parts.
- _____ - **Module 11 Test**. Give test and lab notebook to mom.
- _____ - Correct test; give back to mom. Read/study p. 373-376. OYO p. 376, Correct. Study def.
- _____ - Read/study p. 376-384. OYO p. 384, correct. Study Fig. 12.1-12.4 and definitions
- _____ - Read/study p. 384-391. OYO p. 391, correct. Study Fig. 12.5-12.6 & def.
- _____ - **Lab at _____**. **Experiment 12.1 Insect Classification and Crayfish Dissection**. Remember to draw pictures, answer questions, and write a summary in your lab notebook. **For Apr. 5**

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lab – Who can bring purple cabbage, clear windex or any clear ammonia cleaning liquid?

_____ - Read/study p. 391-395. OYO p. 395-6, correct. Study Fig. 12.7 and definitions. Study all definitions from chapter.

_____ - Read/study p. 396-399. Study definitions. Study OYO questions with answers on p.401.

_____ - Study guide, p. 403-405. Miss any? Tell mom. Correct wrong answers making sure you understand everything. Study for test. Study the crayfish parts.

_____ - **Module 12 Test.** Give test and lab notebook to mom.

_____ - Correct test; give back to mom. Read/study p. 407-409. OYO p. 409, correct. Study Fig. 13.1 and definitions. You can do Experiment 13.1 on your own at home during this module.

_____ - Read/study p. 409-412. OYO p. 410, correct. Study Fig. 13.2-13.4 & def.

_____ - Read/study p. 413-417. OYO p. 417, correct. Study Fig. 13.5 and def.

_____ - Read/study p. 417-419. OYO p. 419, correct. Study Fig. 13.6 and def.

_____ - Read/study p. 420-423. OYO p. 424, correct. Study Fig. 13.7-13.8 & definitions.

_____ - **Lab at _____.** Perch and Frog dissections.

_____ - Read/study p. 424-431. OYO p. 431, correct. Study Fig. 13.9-13.12 and definitions .

_____ - School Holiday.

_____ - Read/study p. 433-439. OYO p. 437, correct. Study Fig. 13.13-13.14 and definitions. Review all OYO with answers on p. 440-441. Dr. Wile has an alternate test with a matching definition part.

_____ - Study Guide for Module #13 p. 442 - Definitions only.

_____ - Study Guide for Module #13, p. 442-444. Miss >2, tell mom. Correct wrong answers making sure you understand everything. Study the fish pictures/parts in the study guide.

_____ - **Test Module #13.** Give test to mom.

_____ - 29 – Standardized Testing

_____ - Correct test; give back to mom. Read/study p. 445-447. OYO p. 447, correct. Study def.

_____ - Read/study p. 447-450. OYO p. 450, correct. Study Fig. 14.1-14.4, def.

_____ - **Experiment 14.1 “Leaf Collection”.** Do at home. Bring to lab on Wed.

_____ - Read/study p. 451-455. OYO p. 454, correct. Study Fig. 14.5 and def.

_____ - **Lab at _____.** Experiment 14.2, Need purple cabbage, clear windex or any clear ammonia cleaning liquid. Bring your leaf collection. Remember to draw pictures, answer questions, and write a summary in your lab notebook.

For lab on May 3, need a variety of flowers and several fruits – p. 492, 501.

Who can bring these? If you call flower shops now they may save you some old ones if you tell them what it’s for.

_____ - Read/study p. 457-461. OYO p. 458, 461, correct. Study Fig. 14.6–14.8 and definitions

_____ - Read/study p. 461-464. OYO p. 464, correct. Study Fig. 14.9 well and def.

_____ -14 – Spring Break

_____ - Read/study p. 464-468. OYO p. 468, correct. Study definitions for entire chapter

_____ - Read/study p. 468-472. OYO p. 470,471, and 472 - correct all. Study Fig. 14.10. Study all OYO for chapter.

_____ - Module 14 Study Guide, p. 475-476. Miss >2, tell mom. Correct all wrong answers making sure you understand everything.

_____ - **Module 14 test.** Give test and lab notebook to mom.

_____ - Correct test; give back to mom. Read/study p. 477-478. OYO p. 479, correct. Study def.

_____ - Read/study p. 479-483. OYO p. 480 and 483 - correct all. Study Fig. 15.1 and definitions.

_____ - Read/study p. 483-485. OYO p. 486. Study Fig. 15.2 and definitions.

_____ - Read/study p. 486-489. OYO p. 487 and 489 - correct all. Study Figure 15.3 and definitions

_____ - Read/study p. 489-492. OYO p. 492, correct. Study Fig. 15.4 and def.

_____ - Read/study p. 492-495. OYO p. 496, correct. Study Fig. 15.5-15.6, def.

_____ - Read/study p. 496-499. OYO p. 498 and 499 - correct all. Study Fig. 15.7 and def. Study all OYO with answers on p. 504-505.

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_____ - Read/study p. 499-503. OYO p. 503, correct. Study definitions.

_____ - **Lab at _____**. Experiment 15.1 Flower Anatomy. Need a variety of flowers. Experiment 15.2 Fruits. Need several fruits. Remember to draw pictures, answer questions, and write a summary in your lab notebook

_____ - Module 15 Study Guide - p. 506-507. Correct. Miss >2, tell mom. Correct wrong answers making sure you understand everything.

_____ - Review study guide, OYO, and definitions. **Module 15 Test.** Give test and lab notebook to mom

_____ - Correct test; give back to mom. Read/study p. 509-511. OYO p. 512, correct. Study Fig. 16.1 and def.

_____ - Read/study p. 512-515. OYO p. 513, correct. Study Fig. 16.2 and def.

_____ - Read/study p. 516-518. OYO p. 519, correct. Study definitions.

_____ - Read/study p. 519-524. OYO p. 524, correct. Study Fig. 16.3 and definitions. Look at <http://chickscope.beckman.uiuc.edu/explore/embryology/> for chick embryology (**Experiment 16.1**)

_____ - Read/study p. 524-528. OYO p. 529, correct. Study Fig. 16.5-16.6 & def.

_____ - Read/study p. 529-533. OYO p. 533, correct. Study Fig. 16.7 and definitions.

_____ - Read/study p. 533-535. OYO p. 535-536, correct. Study definitions. I'm choosing to skip Experiment 16.2. Ask your mom if she wants you to do this.

_____ - Read/study p. 536-539. Study Figure 16.8 and definitions.

_____ - Read/study p. 540-542 (bottom). OYO p. 542, correct. Study definitions. Study all OYO using answers on p. 543-544.

_____ - Module 16 Study Guide, p. 545-546. Correct. Miss >2, tell mom. Correct wrong answers making sure you understand everything

_____ - **Module 16 Test.** Give test to mom. Congratulations – finished Biology!!! Yippee!

Experiment 1.2 Lab Report

The purpose of this experiment was to learn the proper use of a microscope and to observe thread and my own cheek cells under the microscope.

Thread:

At low power, you could see some of the fine structure of the thread.

(drawing of the thread at 40x)

At medium power, the center of the thread was completely black. However, the fibers at the edge of the thread were easy to see.

(drawing of the thread at 100x)

At high power, most of the thread was black. However, the edges were very "hairy."

(drawing of the thread at 400x)

Cheek cells:

At low power, the cells looked like tiny circles.

(drawing of the cells at 40x)

At medium power, the nucleus was visible as was the membrane of the cell.

(drawing of the cells at 100x)

At high power, we saw the nucleus and cell membrane even more clearly.

(drawing of the cells at 400x)

Summary:

In this experiment, I learned about the individual parts of the microscope and its proper use. Then, to get some practical experience, I looked at thread under the microscope. Even though it was hard to see a lot of detail at high magnification, I could see that the thread was made up of individual fibers.

I then scraped the inside of my cheek with a cotton swab and rubbed the swab on the microscope slide. This transferred cheek cells from my mouth to the slide. To make the cells easier to see, I added a methylene blue stain. It took a while for me to find them, but eventually I did. They were oval-shaped with a prominent nucleus in the center. The stain made the nucleus easy to see. The cell membrane was also easy to see.

Exploring Creation with Biology

Experiment 2.2

Lab Report

The purpose of this experiment was to collect live specimens of various microorganisms that feed on different things. I was looking specifically for bacteria, stentors, algae, diatoms, protococcus, vorticella, paramecium, amoeba, euglena, chlamydomonas, and volvox.

(The lab asks the student to draw the microorganisms he or she sees. Those drawings are here. They are the data from the experiment.)

Summary:

I filled four jars halfway full of pond water from a pond in Chester County, PA. To one jar I added hay, to another egg yolk, another white rice, and the last rich soil. After four days, I found paramecia and volvox in the jar that had hay in it. The jar with soil had amoebae and bacteria. In the egg yolk mixture I discovered bacteria and algae. I found nothing in the rice mixture after close examination.

From this experiment, I learned to identify microorganisms, and I saw that although the water came from the same pond, the food in which the microorganisms were cultured really makes a difference on what grows well in the samples