**Biology Lab**
**Grades:** 9-12th (must be registered as 9th grade or above with their accountability group)

**I​nstructor:** Laureen Rupert
**​Email:** laureen@sheep.education
**​​Monthly Cost:** $30
​**Material Fee:** $28
**​Text:** Apologia Exploring Creation with Biology, 3rd Edition

**This is a new textbook – the 2nd edition will not work for this class**
**​Pre-requisites:**Physical Science

**​Supplies:**3-ring binder and colored pencils.

**​Course Description:**The lab grade counts 1/3 of the overall Biology grade; tests and other at-home work make up the remaining 2/3 of the course grade. Students will be graded on weekly lab reports, quizzes, occasional formal lab reports, maintaining a neat lab notebook, and two major projects: a cell model due before Christmas break and a collection – identification project due the week after Spring break. Assignments must be turned in by the due date even if student is absent. Late assignments will drop 1 letter grade; no late assignments accepted after 1 week.

Absences are excused only with an email from parent within 24 hours of missed class. Students read the modules at home, parents grade all text work (tests, study guides, on-your-own questions) and textbook progress will be checked at the end of each semester.

Topics include properly collecting, observing, and analyzing data during a laboratory experiment, use and care for a microscope, writing up scientific experiments and connecting text concepts to the lab observations, dissecting animal specimens. The course will include labs covering microscopic organisms, cell functions, mitosis, DNA/RNA, genetics, animal and plant life, and other biological concepts.

**BIOLOGY LAB**

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| **Week** | **Topics** | **Expected Progress** |
| 1 | Lab 1.1, Intro | Ch. 1 |
| 2 | Module 1, Microscope cont’d |  |
| 3 | **Microscope Quiz**, Lab 2.1, Chemistry of Life | Ch 2 |
| 4 | Lab 2.2, Acids |  |
| 5 | Lab 3.1, Ecology | Ch 3 |
| 6 | Lab 4.1, Cell Structure **(Cell project assigned)** |  |
| 7 | Lab 4.2, Lab 4.3, Cells | Ch. 4 |
| 8 | **Cell Quiz,** Lab 5.1, Pigments |  |
| 9 | Lab 5.2, Cellular Respiration | Ch. 5 |
| 10 | Lab 6.1, DNA |  |
| 11 | Lab 6.2, Mitosis | Ch. 6 |
| 12 | Project Day (**Cell model due)** |  |
| 13 | Candy Quiz |  |
|   | **Christmas Break** | Ch. 7 |
| 14 | Module 7, Genetics discussion and worksheets |  |
| 15 | Lab 7.2, Pedigree | Ch. 8 |
| 16 | Module 8 discussion and worksheets |  |
| 17 | Lab 9.1, Classification and Prokaryotes | Ch. 9 |
| 18 | Module 10, Pond Life | Ch. 10 |
| 19 | Lab 10.3, Lab 10.4, Molds and Yeast  |  |
| 20 | Lab 10.5, Fungi (formal lab report) | Ch. 11 |
| 21 | Lab 11.1, Lab 11.2, Flowers and Fruit |  |
| 22 | Lab 12.1, Roots, Stems, and Leaves | Ch. 12 |
| 23 | Lab 12.2, Leaf Color | Ch. 13 |
| 24 | Lab 13.1, Lab 13.2, Invertebrates |  |
| 25 | Lab 14.1, Crayfish Dissection | Ch. 14 |
| 26 | Lab 15.1, Perch Dissection | Ch. 15 |
| 27 | Lab 15.2, Frog Dissection |   |
| 28 | Project Day (**Collection Project Due)**; **Notebook Check** | Ch. 16 |
| 29 | Candy Quiz |   |