

Biology Spring/Fall 2021-2022 -CVCA

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Recommended Grade Level: 8-11

Class Cost: \$30/month

Book: reading materials will be uploaded via google classroom, as well as all documents to be assigned and worked on.

Requirements: Access to google Classroom

What is Biology

Apologia Biology is a foundational science course with a lab in which students study the science of "life". This course provides both the knowledge and laboratory skills that are foundational to the study of life, including the history surrounding many of the major discoveries in the biological sciences. This course is a one year long course where students will earn 10 science credits with the lab.

Course Objectives

In this course the student will 1) engage in lively discussions about the science of life, the history surrounding major discoveries and much more; 2) virtually, and 3-d dissect specimens ; 3) learn to identify a variety of fallacies; 4) develop critical thinking skills through assessment and evaluation; 5) develop lab skills

Course Study

- **Module 1: The Science of Life**
The processes of science, including what scientists do, the scientific method, the tools of science and the limitations of science
- **Module 2: The Chemistry of Life**
The composition of matter, the properties of water, lipids, proteins, and enzymes
- **Module 3: Ecology**
Eco systems, biomes, populations, and communities
- **Module 4: Cell Structure and Function**
Characteristics of all cells
- **Module 5: Cellular Energy**
Energy of all cells
- **Module 6: DNA, Proteins, and the Cell Cycle**
DNA replication, protein synthesis, and cell cycle & cellular reproduction
- **Module 7: Genetics**
Mendelian genetics, inheritance patters, human genetics, and gene technologies
- **Module 8: Evolution**
Charles Darwin, Micro and Macro evolution, the geological column, and fossil record evidence
- **Module 9: Prokaryotes and Viruses**
Classification, Archaea, Bacteria, and Viruses
- **Module 10: Protists and Fungi**
Characteristics and classification

- Module 11: Plant Diversity and Reproduction
Classifying plants and life cycle
- Module 12: Plant Structure and Function
Plant anatomy and physiology, transporting water and nutrients, plant growth, hormones, and responses
- Module 13: Animals – Invertebrates (part 1)
Characteristics and diversity
- Module 14: Animals – Invertebrates (part 2)
Arthropods
- Module 15: Animals – Chordates (part 1)
Characteristics and diversity
- Module 16: Animals – Chordates (part 2)
Birds and mammals

Grading (percentage)

- Assignments will need to be uploaded to Google Classroom

Assignments - 40

Class Participation/labs - 40

Quizzes/Tests - 20

- Students will receive 1 progress report at the end of the first and third quarter, and a semester grade at the end of each semester.

Student Responsibilities

- Follow class schedule (syllabus) and turn assignments in on time
- Contact teacher if there are questions or concerns
- Treat other classmates with grace and love
- Show respect to all authority during classes

Parent Responsibilities

- Contact teacher if there are questions or concerns
- Keep student on track with class as needed
- Remind student of behavior policy as needed