- Acids and Bases
- Carbon Compounds – Organic Molecules
- Enzymes

Labs

- AP Lab #2
- Molecular models lab and worksheet
- How many drops of water can fit on a penny? Cohesion and adhesion.

Unit 3

Cellular Structure and Function

Student Workbook

- Student Workbook – Activity 6.1 What makes a cell a living organism? Pg. 17
- Student Workbook – Activity 7.1 What controls the movement of materials into and out of the cell? Pg.19
- Student Workbook – Activity7.2 How is the structure of a cell membrane related to its function? Pg.21

Textbook Readings

- Ch.6,7, 11

Lecture Topics

Labs

- Microscope work and review
- Prokaryotic vs. Eukaryotic lab
  - Anabaena and heterocysts – Carolina Biological Supply
- Examine Protists lab
  - Amoeba, Euglena, Pramecium, Stentor, Blepharisma, volvox – Connecticut Valley Biological Supply Co. (LD 12- mixed Protozoa)
- Diffusion and Osmosis lab
  - AP Lab #1
- Cell Membrane Model Building

Unit 4

Biotechnology with Viruses, Bacteria, and DNA Structure

Student Workbook

- Transformation with pGLO Bacterial Transformation Kit – BioRAD laboratories (166-0003EDU)
- Gel Electrophoresis
  - AP Lab #6
- DNA Extraction from Onion Cell lab
- Virtual Lab
- Genome Reading from a journal
- Student Workbook – Activity 16.1 Is the hereditary material DNA or protein? Pg.87
- Student Workbook – Activity 19.1 How do viruses, viroids, and prions affect host cells? Pg.111
- Student Workbook – Activity 18.1 How is gene expression controlled in bacteria? 103
- Student Workbook – Activity 16.2 How does DNA replicate? Pg. 93
- Student Workbook – Activity Modeling transcription and translation: What processes produce RNA from DNA and protein from mRNA? 95
- Student Workbook – Activity 43.1 How does the immune system keep the body free of pathogens? Pg. 251
- Textbook reading – Ch.19, 20