

Scholars Prep Guide

Biology I

Description:

Biology is the science that studies living things. This laboratory-based course focuses on the process of scientific investigation through the study of living things and the world in which we live.

As a student you will be exposed to new scientific language and concepts, technology, and research. You will actively participate in laboratory investigations to help you develop or strengthen scientific attitudes and interests. You will be encouraged and guided towards taking an independent responsibility in your own learning, which will prepare you for college, technical school, and/or the work place. This will be measured by your success in meeting the requirements to pass the class and the biology exam at the end of the year.

The major disciplinary core ideas utilized for Biology I include:

- Organic molecules
- DNA structure and function
- Protein synthesis
- Protein structure and function
- Cellular differentiation and coordinated functions
- Eukaryotic cell cycle
- Membrane transport
- Photosynthesis and respiration
- Population dynamics
- Carbon cycle
- Energy transfer
- Succession
- Biodiversity and ecosystem stability
- Molecular biotechnology applications
- Ethical debates of biotechnology use
- Sexual reproduction
- Phenotype determining factors
- Pedigree analysis and predictions
- Evidence for evolution
- Natural selection
- Evolutionary processes
- Speciation
- Global biodiversity patterns
- Human activities that impact biodiversity

Tennessee Academic Science Standards. <https://www.tn.gov/education/instruction/academic-standards/science-standards.html>

Tips for preparing for Biology I:

- Basic Math skills (multiply, divide, add, subtract, percent)

Tips for being successful in Biology I:

- Take responsibility for your learning.
- Ask questions.
- Listen.
- Take notes.
- Review your notes from class.
- Do your own work. Do not copy from someone else's work.
- Study for tests.