



High School Biology: Instructional Plan (First Semester)

Course Overview

Welcome to Biology! This course is designed to provide students with a comprehensive understanding of the fundamental principles of living organisms. Through hands-on laboratory investigations, classroom discussions, and inquiry-based activities, students will explore the intricate mechanisms of life, from the molecular level to entire ecosystems. This course is vital for developing critical thinking, scientific reasoning, and problem-solving skills that are essential for success in future science courses and a wide range of careers.

Contact Information

Teacher Name: _____

Email: _____

Phone: _____

Classroom Expectations

Our classroom is a collaborative and respectful learning community. To ensure every student has the opportunity to succeed, we will adhere to the following core expectations:

- **Be Prepared:** Arrive on time with all necessary materials, including your binder, lab notebook, pens/pencils, and charged Chromebook.
- **Participate Actively:** Engage in discussions, ask thoughtful questions, and contribute positively to group activities. Take ownership of your learning.
- **Respect the Learning Environment:** Show respect for your peers, your teacher, and all classroom materials. Follow all lab safety guidelines and school-wide behavior policies.

Consequences: We will focus on positive reinforcement to encourage success. If expectations are not met, the process will be: 1) Reteach and redirect, 2) Parent contact, and 3) Office referral.

Attendance Policy & Its Importance

Consistent attendance is critical for success in Biology. Much of our learning will occur through hands-on labs and collaborative activities that cannot be replicated with make-up work. Biological concepts build upon each other, so frequent absences can create learning gaps that are difficult to close. Please notify the school if you will be absent.



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Learning Objectives (First Semester)

By the end of the first semester, using the Texas Essential Knowledge and Skills (TEKS) for Biology, students will be able to:

Unit 1: The Nature of Science & Lab Safety

- (TEKS 1A-D) Plan and conduct safe laboratory and field investigations using appropriate scientific tools and practices.
- (TEKS 2A-D) Analyze and interpret data, identify limitations of models, and evaluate experimental designs.
- (TEKS 3A-C) Develop and communicate evidence-based explanations using data and scientific principles.

Unit 2: Chemistry of Life

- (TEKS 5A) Analyze the structure and function of the four major biomolecules (carbohydrates, lipids, proteins, nucleic acids) and their role in living organisms.

Unit 3: Cell Structure & Function

- (TEKS 5B) Differentiate between prokaryotic and eukaryotic cells, including their complexity and defining characteristics.
- (TEKS 5C) Investigate and explain cellular processes, including homeostasis and the transport of molecules across the cell membrane.

Unit 4: Bioenergetics

- (TEKS 5D) Analyze the cycling of matter and the flow of energy in the processes of photosynthesis and cellular respiration.

Unit 5: The Cell Cycle

- (TEKS 6A) Describe the phases of the cell cycle, including mitosis, and explain its significance for growth and repair.
- (TEKS 6B) Recognize that disruptions of the cell cycle can lead to diseases such as cancer.

Unit 6: Molecular Genetics

- (TEKS 7A) Describe the structure of DNA and RNA and explain the process of DNA replication.
- (TEKS 7B) Explain the roles of transcription and translation in the process of protein synthesis.

Course Resources

- **Textbook:** Miller & Levine, *Biology* (or district-adopted textbook)
- **Online Platform:** Google Classroom will be used for assignments, announcements, and resources.
- **Materials:** Pocket folder with brads, loose-leaf paper, pens, and pencils.



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Grading Policy

Grading will adhere to the Midland ISD Grading Policy. A combination of daily work, quizzes, laboratory reports, projects, and major exams will be used to assess student mastery of the content.

- **Daily Work / Labs / Quizzes / Projects:** [40 %]
- **Major Exams:** [60 %]

School-wide System of Communication

I will communicate with students and guardians regarding upcoming assessments, classroom activities, and student progress. Communication may be electronic through the district's Student Information System or other approved applications. Please feel free to reach out with any questions or concerns. We are excited to work together to make this a successful year of learning!

Please fill out the portion below and return this page to your teacher.

We acknowledge that we have read and understand the expectations for Biology. We agree to contact the teacher should we have any questions or concerns regarding this instructional plan.

Parent Name: _____

Student Name: _____

Cell Phone Number: _____

E-Mail: _____

Parent Signature: _____

Student Signature: _____

Date: _____