

Darcie Ruby

Biology Syllabus

2012-2013 course outline

Course objectives: This course is designed to give an overview of biological science, including the classification of living things and how they interact with each other and their environment. The class will contain both lecture and lab components, as well as interactive activities.

Schedule of classes: [Note: dates are not included as part of the syllabus as the pace of teaching is difficult to calculate. Quizzes, labs and other evaluations will be given periodically for individual sections, and a test will be given at the end of each unit].

Unit One: The Basis of Life

Section 1: The Study of Life

- Similarity Among Living Things
- The Scientific Method

Section 2: The Chemical Basis of Life

- Chemicals in Organisms
- Basics of Chemistry
- Chemistry in life Processes
- Properties of Water

Section 3: Cells, Tissues, and Organ Systems

- Overview of Cells
- Cell Structure
- Organelles
- Cell Function

Section 4: Photosynthesis and Cellular Respiration

- Energy and ATP
- Photosynthesis

- Cellular Respiration

Section 5: Cell Division

- Mitosis
- Meiosis

Unit Two: Genetics

Section 6: Fundamentals of Genetics

- Patterns and Principles of Inheritance
- Genetics and Prediction
- Difficult Predictions

Section 7: DNA, Genes, and Chromosomes

- DNA Structure
- DNA Replication
- Sex Linkage

Section 8: Protein Synthesis

- Genotype and Phenotype
- Changes in Chromosomes

Unit Three: Change and Diversity

Section 9: The Theory of Evolution (chapter 10)

- Variation and Adaptation
- Darwin and His Theory
- Population Genetics

Section 10: Classification (chapter 13)**

- Grouping Organisms
- Basis for Classification

Unit Four: Organisms and the Environment (Unit 9)**

****unit 4 is dedicated to climate change**

Section 17: The Biosphere (chapter 35)

- Climate Change
- Land and Water Biomes

Section 18: Ecosystem Dynamics (chapter 37)

- Energy Levels
- Chemical Cycles

Culminating Project

Students will complete a Public Service Announcement. For their final project to culminate, the student will identify a negative human influence associated with climate change on the environment and possible resolutions. The student will also demonstrate an understanding of persuasive techniques used by creating a 30 second public service announcement aimed at persuading viewers to reduce their negative influence on the environment.

Unit Calendar

Day 1 Pretest Lesson 1 Weather vs Climate	Day 2 Lesson 1 Weather vs Climate	Day 3 Lesson 2 Effects of CO ₂ on Temperature	Day 4 Lesson 2 Effects of CO ₂ on Temperature	Day 5 Video: an Inconvenient Truth
Day 6 Lesson 4 Temperature Connections	Day 7: Lesson 5 Carbon Out	Day 8 Lesson 6 Carbon In	Day 9 Lesson 7 Past Carbon Connections	Day 10 Lesson 7 Past Carbon Connections
Day 11 Mini Assessment (Summative Quiz) CO2	Day 12 Culminating Project What do you say- What are PSA's	Day 13 Culminating Project What do you say investigate PSAs	Day 14 Culminating Project What do you say PSA storyboard	Day 15 Culminating Project What do you say

				Create PSAs
Day 16	Day 17	Day 18	Day 19	Day 20
Culminating Project	Culminating Project	Culminating Project	Culminating Project	Assessment/Post Test
What do you say	What do you say	What do you say- PSA presentation	What do you say- PSA presentation	
Create PSAs	Create PSAs			