

Course Description:

This course focuses mainly on plants and animals. The course begins with an introduction to cells. You will then continue with the hierarchy of organization through a discussion of tissues, organs, and organ systems. Once you have learned what makes up organisms, you will take a look at interactions between them. The course will also cover the growth of plants and animals and what factors affect their growth. You will then track the life cycles of plants and animals and find out how they reproduce.

Course Objectives:

- Apply scientific processes to conduct investigations.
- Use logical thinking to identify relationships and draw conclusions.
- Evaluate topics in biology and ecology, including cells, organisms, plants, animal and plant interactions, growth, and reproduction.

Required Materials:

In course.

Schedule of Work:

Unit 1:

- Direct Instruction
 - Cell History
 - Cell Theory
 - Cell Parts: Outside
 - Cell Parts: Inside
 - Eukaryotes
 - Prokaryotes
- Checkpoints 1-4
- Discussion Board
- Vocabulary Review
- Practice: Build-a-Cell
- Project: Living vs. Nonliving

Unit 2:

- Direct Instruction
 - Structure of Organisms

- Hierarchy of Organization
- Organ Systems
- The Senses
- Types of Neurons
- Responding to Senses
- Memory Formation

- Checkpoints 6-8
- Discussion Board
- Vocabulary Review
- Practice: Nervous System

Unit 3:

- Direct Instruction
 - Types of Organs in Plants
 - Photosynthesis
 - Types of Plant Tissues
 - Parts of a Flower
 - Flowers, Fruits, and Seeds
- Checkpoints 11-14
- Discussion Board
- Vocabulary Review
- Units 1-3 Review
- Units 1-3 Exam

Unit 4:

- Direct Instruction
 - Survival and Reproduction
 - Characteristics and Behaviors
 - Predator vs. Prey
 - Working Together
 - Plant Survival
 - How Animals Benefit from Plants

- Checkpoints 16-18
- Discussion Board
- Vocabulary Review
- Practice: Plant and Animal Relationships

Unit 5:

- Direct Instruction
 - Growth and Development
 - What is Needed for Growth?
 - What Affects Growth?
- Checkpoint 23
- Discussion Board
- Vocabulary Review
- Project: Plant Growth Lab

Unit 6:

- Direct Instruction
 - Life Cycles
 - Asexual Reproduction
 - Sexual Reproduction
 - Diversity
- Checkpoints 25 and 28
- Discussion Board
- Project: Prickly Pear
- Vocabulary Review
- Units 4-6 Review
- Units 4-6 Exam