BIO I (9th Grade)

Click **HERE** for standards (coming soon)

Curriculum Resource - TPT It's Not Rocket Science - Biology (General and Honors Courses)

Textbook: *Experience Biology* by Miller & Levine (Oklahoma), Savvas Learning Company

1st quarter

Unit 1 - Ecology

Big Picture

-Introduction to Ecology
-Biogeochemical Cycles
-Population Ecology
-Human Impact
-Succession
-Relationships

Essential Question

How do the living and nonliving parts of an ecosystem relate to each other?

***Unit Projects*:** Problem-Based Learning
-Ecosystem in a Bottle
-Human Impact

2nd quarter

Unit 2 - Energy Flow

Big Picture

-Enzymes and ATP
-Energy Flow through Ecosystems

Essential Question

How do living organisms obtain and use energy from a cellular level to an ecosystem level?

MidTerm

Choose 1 of the following labs to complete.
-Biogas Farming
-Plan an Urban Tree Planting
-Wetland Restoration

3rd quarter

Unit 2 continued.

Big Picture

-Photosynthesis
-Cellular Respiration

***Unit Project*:** Problem-Based Learning
-Cellular Respiration in the Real World

Unit 3 - Cells

Big Picture

-Cell Theory and Organelles
-Cell Transport
-Cell Cycle and Cancer

Essential Question

How do the components within a cell work together to maintain homeostasis from an organismal level all the way down to a celluar level?

***Unit Projects*:** Problem-Based Learning
-Cell Organelle
-A Look into Bioethics

Unit 4 - Genetics

Big Picture

-DNA Structure and Replication
-Protein Synthesis
-Meiosis

Essential Question

Why is genetic information significant for organisms & their potential future offspring?

4th quarter

Unit 5 - Heredity

Big Picture

-Mendelian Genetics
-Complex Inheritance Patterns
-Mutations and Pedigrees
-Genetic Engineering

Essential Question

How is genetic information expressed in order to make us who we are?

***Unit Project*:** Problem-Based Learning
-Genetic Disorder Research

Unit 6 - Biological Unity and Diversity

Big Picture

-Natural Selection
-Patterns of Evolution
-Evidence of Evolution
-Phylogeny

Essential Question

How do populations change over time to survive in different environmental condtions?

Final

Updated 1/2022