

COURSE: Biology

I. Grade Level/Unit Number: 9 - 12 Unit 3

II. Unit Title: Evolutionary Mechanisms

III. Unit Length: 2 weeks (on a 90 min per day block schedule)

IV. Major Learning Outcomes:

The student will gain an understanding of

- The development of the theory of evolution by natural selection as related to the scientific process
- The hypotheses about the evolution of the first living things
- The evidence for the change of organisms over time – both fossil and biochemical evidence
- The steps in the theory of natural selection
- The current evidence for evolution seen in antibiotic and pesticide resistance
- The history of classification systems
- The changing nature of classification systems related to new understandings about the evolutionary relatedness of organisms
- The differences and similarities between eukaryotes and prokaryotes
- The characteristics that are similar and different among the Protists, Fungi, Plants, and Animals
- The use of dichotomous keys in classifying organisms

V. Content Objectives Included (with RBT Tags):

| Objective Number | Objective | RBT Tag |
|-------------------------|--|----------------|
| 3.05 | Examine the development of the theory of evolution by natural selection including: <ul style="list-style-type: none">• Development of the theory.• The origin and history of life.• Fossil and biochemical evidence.• Mechanisms of evolution.• Applications (pesticide & antibiotic resistance). | B4 |
| 4.01 | Analyze the classification of organisms according to their evolutionary relationships. <ul style="list-style-type: none">• The historical development and changing nature of classification systems.• Similarities and differences between eukaryotic and prokaryotic organisms.• Similarities and differences among the eukaryotic kingdoms: Protists, Fungi, Plants, and Animals.• Classify organisms using keys. | B4 |
| 1.00 | Learner will develop abilities necessary to do and understand scientific inquiry. Goal 1 addresses scientific investigation. These objectives are an <i>integral</i> part of <i>each of the other goals</i> . Students must be given the opportunity to design and conduct their own investigations in a safe | |