

WINK SHEET— Evidence of Evolution

Theme: Scientific evidence from the fields of anatomy, embryology, biochemistry, and paleontology underlie the theory of biological evolution. The similarities and differences in DNA sequences, amino acid sequences, anatomical features and fossils all provide information about patterns of descent with modification. Organisms resemble their ancestors because genetic information is transferred from ancestor to offspring during reproduction.

Expectations:

- * Analyze scientific data to explain how multiple lines of evidence (including DNA or amino acid sequences, anatomical and embryological features, fossils, and artificial selection) are used to investigate common ancestry and descent with modification.
- * Construct explanations of ways scientists use data from a variety of sources to investigate and critically analyze aspects of the theory of biological evolution.
- * Construct and interpret a phylogenetic tree, based on anatomical evidence, of the degree of relatedness among various organisms and revise the model based on the inclusion of molecular (such as DNA and/or amino acid sequence) evidence.

Objectives: On a scale of 0-5, with 0 being “I know absolutely nothing” and 5 being “I am exceptionally confident in my ability,” please rank your understanding of each objective at the end of the unit.

- _____ Identify fields of science that provide evidence for biological evolution
- _____ Illustrate evidence for biological evolution using pictures, diagrams, or words
- _____ Infer relationships among organisms based on evidence from anatomy
- _____ Infer relationships among organisms based on evidence from paleontology
- _____ Infer relationships among organisms based on evidence from molecular biology
- _____ Infer relationships among organisms based on evidence from embryology
- _____ Summarize the ways that each field of science listed provides evidence for evolutionary relationship
- _____ Construct a phylogenetic tree from evidence

Textbook: We will be covering pages 161-165;170-191; 235-246 in your textbook. Please mark which statements apply to your use of the textbook on this unit.

- _____ I read the entire reading for this chapter
- _____ I read part of the reading for this chapter
- _____ I used the textbook to assist in my understanding of vocabulary from this unit
- _____ I used the textbook to assist in my understanding of the objectives
- _____ We have a text book?
- _____ Other _____

Vocabulary:

- Anatomy
- Homologous Structures
- Vestigial Organs
- Analogous structures
- Artificial Selection
- Embryology
- Biochemistry
- Paleontology
- Fossil Record
- Phylogeny
- Transitional fossils
- phylogenetic tree

Activities

- Structural Lab
- Embryology Lab
- Cladistics Lab
- Camanicles