WINK SHEET— Natural Selection

Theme: Biological evolution occurs primarily when natural selection acts on the genetic variation in a population and changes the distribution of traits in that population over multiple generations.

Expectations:

* Critically analyze and interpret data to explain that natural selection results from four factors: (1) the potential for a population to increase in number, (2) the genetic variation among individuals in a species due to sexual reproduction and mutation (3) competition for a limited supply of resources, and (4) the ensuing proliferation of those individuals that are better able to survive and reproduce in that environment.
* Conduct investigations by simulating several generations of natural selection to investigate how changes in environmental conditions may lead to changes in selective pressure on a population of organisms.

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 how Darwin's explorations led to the development of the theory of Evolution by means of natural selection
- _____Explain the four parts of Darwin's Theory of Natural selection and why each is essential to change in a population
- _____Compare microevolution and macroevolution
- _____Explain the role of the environment in evolutionary changes
- _____Summarize the process of natural selection
- _____Differentiate between convergent evolution, coevolution, and divergent evolution
- _____Explain how diversity in a species affects its chance of survival
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Textbook: We will be covering pages 296-334 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:

- Biological Evolution
- Microevolution
- Macroevolution
- Natural selection
- Overproduction of offspring
- Variation
- Adaptation
- Fitness
- Genetic Variability
- Genetic Drift
- Gene Flow
- Non-random mating
- Genetic Equilibrium
- Hardy Weinberg principle
- Speciation
- Gradualism
- Punctuated equilibrium
- Adaptive radiation
- Divergent evolution
- Convergent evolution

Activities

- Darwin and Artificial Selection Lab
- Eyes Movie
- Sickle Cell Anemia Selection Lab
- Microevolution of Beans Lab