

Name_____

Date_____

Period_____

Evolution WebQuest

You will have access to all of the links below from the following website.

<http://www.pbs.org/wgbh/evolution/library/01/index.html>

1. Read the background information and watch the video entitled "Evolution of Camouflage" under the adaptation heading.

a. What are some reasons that species may have evolved the ability to camouflage or mimic?

b. If this same species was placed in an environment with plants that have purple leaves instead of green ones, how might it evolve? How would this happen? Could this change happen in a couple of years or would it probably take a lot longer?

2. Read the background information and watch the video entitled "Evolution of the Eye" under the adaptations heading.

a. How can evolution explain things so complex such as the eye? (Don't describe the evolution of the eye specifically, just the concept of the evolution of complex structures.)

3. Read the background information and watch the video entitled "A Mutation Story" under the adaptive compromise heading.

a. The presence of a sickle cell gene is considered to be a genetic compromise. Is having it an advantage, a disadvantage, neither, or both. Explain.

b. Why is the sickle cell gene found more often in certain areas of the world?

c. How is this evidence of natural selection?

d. How does this relate to our camouflage activity?

4. Read the background and watch the videos entitled "Ancient Farmers of the Amazon" and "Toxic Newts" under the co-evolution heading.

a. What is co-evolution and how are these examples of it?

b. In the newt scenario, what situation could eventually cause the toxin levels to stop increasing? In general, what other factors could influence/interfere with co-evolution?

5. Read the background and watch the videos entitled "Asexual Producers" and "The Red Queen" under the Heritable Variation heading.

- a. What are the evolutionary disadvantages to asexual reproduction?
- b. What do these asexual species rely on for variation?
- c. Why are sexual producers better able to fight off predators/diseases than the asexual?

6. Read the background and watch the videos entitled "Tale of the Peacock" and "Songbird Infidelity" under the Natural and Sexual Selection heading.

- a. Despite apparent disadvantages, species such as the peacock develop certain characteristics such as bright coloring, large tail feathers, etc. Why would evolution dictate this? What are the advantages to the population as a whole?
- b. Will these features get more and more extravagant over time? Why or why not?
- c. How does songbird infidelity help the songbird population despite its potential disaster to the female birds and their young?