



High School Science Virtual Learning

College Biology

Chapter 14 Recap Part 1

May 8, 2020



High School College Biology

Lesson: May 8, 2020

Objective/Learning Target:

Students will be able to speciation, plate tectonics, and macroevolution.



Let's Get Started:

1. What are the three general outcomes of Natural Selection?
2. Male and female cardinal birds have different colors. The males are bright red and the females are brown. What is it called when different sexes of the same species have different appearances?



Answers:

1. Directional selection, disruptive selection, and stabilizing selection.
2. Sexual dimorphism

Lesson Activity:

1. Read over pages 1-13 of the Chapter 14 Notes. ([Linked Here](#))- Stop at History of Earth and Macroevolution.
2. Watch this Crash Course video on [Speciation](#).

Practice:

1. Horses and donkeys can be bred to produce mules. If they produce offspring, why are they considered different species?
2. The Galapagos Islands are one of the world's greatest examples of speciation. What determines the shape of the finches' beaks?
3. Why is behavioral isolation considered a prezygotic barrier?

Practice Answers:

1. This is referred to as a postzygotic barrier. Mules are sterile and cannot produce their own offspring.
2. Beak shape is determined by the diet of the finches. Some finches require long slender beaks while other require short stout beaks for opening nuts and seeds.
3. Behavioral isolation means that two species do not breed because of differences in behavior. If they do not breed, a zygote can never be formed even though the two species may be physically capable of producing offspring.

More Practice:

1. Identify each of the following reproductive barriers as prezygotic or postzygotic.
 - a. One lilac species lives on acidic soil, another lives on basic soil
 - b. Mallard and pintail ducks mate at different times of the year.
 - c. Hybrid offspring of two species of jimsonweed always die before reproducing.
 - d. Pollen of one kind of pine tree cannot fertilize another kind

More Practice:

2. Why is a small, isolated population more likely to undergo speciation than a large one?
3. What is necessary for allopatric speciation to occur?
4. What mechanism accounts for most observed instances of sympatric speciation? Why might this be the case?

More Practice:

5. The animals and plants of India are almost completely different from the species in nearby Southeast Asia. Why might this be?
- They have become separated by convergent evolution.
 - The climates of the two regions are completely different.
 - India is in the process of separating from the rest of Asia.
 - India was a separate continent until relatively recent.

More Practice Answers:

1. Prezygotic: a, b, c, e; postzygotic: d
2. Because a small gene pool is more likely to be changed substantially by genetic drift and natural selection
3. A population must be split into more than one group by a geographic barrier that interrupts gene flow between the two groups.
4. Accidents of cell division that result in polyploidy. Polyploidy produces “instant” reproductive isolation.
5. D



Review Tools:

- [Kahoot 1](#)
- Bozeman Science Video [Speciation](#)