

Name _____ Date _____ Per _____
Biology

Ch 16 Guided Reading: Evolution of Populations

Read chapter 16 summary to answer the following questions.

16-1 Genes and Variations

1. What controls our traits?
2. What is a population?
3. What do members of a population share?
4. What is a gene pool?
5. What is evolution, in genetic terms?
6. What are the two main sources of genetic variation?
7. What is a mutation?
8. How do mutations and gene shuffling increase genetic variation?
9. What is a polygenic trait and what is an example of one?
10. Variation in polygenic traits in a population produce a bell shaped curve, with most people falling near the middle of the curve. **Draw** a bell shaped curve and **show** where most people fall in this curve. Given your example from #9, **identify** what the heights might be in the **middle** of the curve and at **either end**. (*Refer to page 396 in your textbook*)

16-2 Evolution as Genetic Change

11. What is the difference between natural selection and evolution in terms of what each acts on?

12. When natural selection acts on polygenic traits, three types of selection occur. Identify **and** describe each type.

a.

b.

c.

13. Now, identify each type of selection again **and** draw the curve that represents each type of selection based on its description in the reading. On each curve, **identify** where the most fit individuals are found. (*Refer to page 398-399 in your textbook*)

a.

b.

c.

14. What is genetic drift?

15. When does genetic drift occur?

16. How does genetic drift produce changes in alleles?
17. How else does genetic drift occur?
18. What is the Hardy-Weinberg principle?
19. What is genetic equilibrium?
20. What five conditions are required for genetic equilibrium to be maintained?

16-3 The Process of Speciation

21. What is speciation?
22. How does speciation occur?
23. What is reproductive isolation?
24. Name **and** describe each of the three types of reproductive isolation.
 - a.
 - b.
 - c.
25. How does Darwin think finches evolved on the Galapagos Islands?