Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chapter 17 Review Sheet

1. Many genes have at least two forms, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. What is a gene pool?
3. What is meant by “relative frequency”?
4. Define evolution in genetic terms.
5. What are the 2 main sources of genetic variation?
6. What is a mutation?
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-over increase the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that can appear in offspring.
8. What is a single-gene trait?
9. How many phenotypes can there be for a single-gene trait?
10. What are polygenic traits?
11. Give an example of a polygenic trait.
12. What shape curve is typical of polygenic traits phenotype distribution?
13. True or False: If an individual dies without reproducing, it will contribute its alleles to the population’s gene pool.
14. True or False: If an individual produces many offspring, its alleles stay in the gene pool and may increase in frequency.
15. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organisms, can evolve over time.
16. Why did the red lizard population decrease in size?
17. Why did the black lizard population increase in size?
18. What are the 3 types of selection that can occur?

Matching

1. Occurs when individuals at one end of the curve have higher fitness than individuals in the middles or at the other end.
2. Occurs when individuals at the upper and lower ends of the curve have higher fitness than individuals near the middle.
3. Occurs when individuals near the center of the curve have higher fitness than individuals at either end of the curve
4. \_\_\_\_\_ Stabilizing selection
5. \_\_\_\_\_ Directional selection
6. \_\_\_\_\_ Disruptive selection
7. What is genetic drift?
8. What is the founder effect?
9. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ principle states that allele frequencies in a population will remain constant unless one or more factors cause those frequencies to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
10. What is genetic equilibrium?
11. What 5 conditions are required to maintain genetic equilibrium?
12. Explain why mating in natural populations is rarely random.
13. True or False: Genetic drift has less effect on large populations than on small ones
14. If genes mutate, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ alleles may be introduced into the population, and allele \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will change.
15. What is speciation?
16. What is a species?
17. What must occur to the gene pools of two populations in order for a new species to be formed?
18. What are the three types of reproductive isolation?

Matching

1. Occurs when two or more species reproduce at different times
2. Occurs when two populations are separated by geographic barriers such as rivers
3. Occurs when two or more species have different courtship rituals
4. \_\_\_\_\_ Behavioral Isolation
5. \_\_\_\_\_ Geographic Isolation
6. \_\_\_\_\_ Temporal Isolation
7. What animal did Darwin observe in the Galapagos that was central to his idea of natural selection?
8. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Darwin saw were different, but he hypothesized that they had descended from a common \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Be able to explain why the finches of the Galapagos all have different types/sizes of beaks.
10. Who tested Darwin’s hypothesis about natural selection?
11. How did speciation in the Galapagos finches occur? (5 reasons)
12. Study the pictures on the last two pages and use that to explain how natural selection in finches occur.

Directions – Write what type of selection is show in each graph below.

