

SECTION 16-2 REVIEW

DISRUPTION OF GENETIC EQUILIBRIUM

VOCABULARY REVIEW Distinguish between the terms in each of the following pairs of terms.

1. immigration, emigration _____

2. gene flow, genetic drift _____

3. random mating, assortative mating _____

4. stabilizing selection, directional selection _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. Any violation of the conditions necessary for Hardy-Weinberg equilibrium can result in
 - a. independent assortment.
 - b. disorganizing selection.
 - c. evolution.
 - d. eventual extinction.
- _____ 2. The movement of reproductive individuals from one population to another results in
 - a. infertile offspring.
 - b. spontaneous mutation.
 - c. genetic drift.
 - d. gene flow.
- _____ 3. Genetic drift is most likely to occur in
 - a. small populations.
 - b. large populations.
 - c. populations that migrate.
 - d. populations that have a low frequency of mutation.
- _____ 4. Assortative mating occurs when
 - a. one animal mates with a variety of other individuals during its lifetime.
 - b. males choose to mate with females that are the most fertile.
 - c. an individual chooses mates that are similar to itself.
 - d. females choose to mate with males that are from other populations.
- _____ 5. Starlings produce an average of five eggs in each clutch. If there are more than five, the parents cannot adequately feed the young. If there are fewer than five, predators may destroy the entire clutch. This is an example of
 - a. disruptive selection.
 - b. stabilizing selection.
 - c. directional selection.
 - d. sexual selection.

SHORT ANSWER Answer the questions in the space provided.

1. List five conditions that can cause evolution to take place. _____

2. Explain how a Hardy-Weinberg genetic equilibrium is affected by mutations. _____

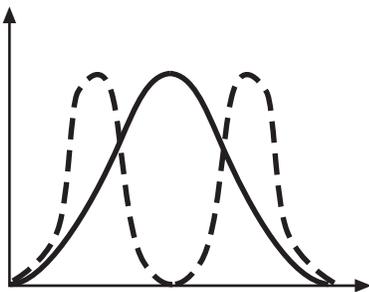
3. What is one potential negative consequence of nonrandom mating based on geographic proximity?

4. How might being brightly colored increase the fitness of the males of some bird species? _____

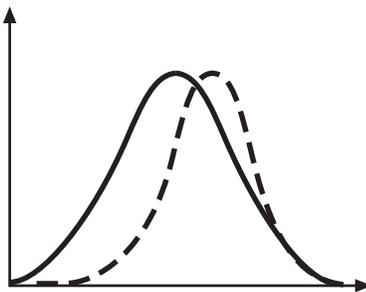
5. Why is genetic homozygosity dangerous to a nearly extinct species? _____

6. **Critical Thinking** If a cow develops a preference for eating white four o'clock flowers and ignoring pink and red four o'clock flowers, what type of selection is being demonstrated? Would the cow eventually eliminate all white four o'clock flowers from the population on which it feeds?

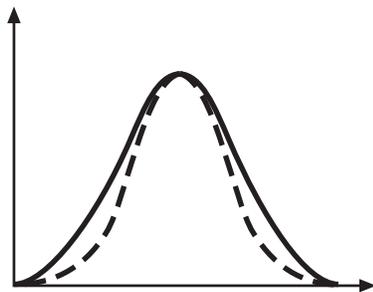
STRUCTURES AND FUNCTIONS Label the three types of selection illustrated by the graphs below.



a _____



b _____



c _____