

Microevolution Practice Quiz

Multiple Choice

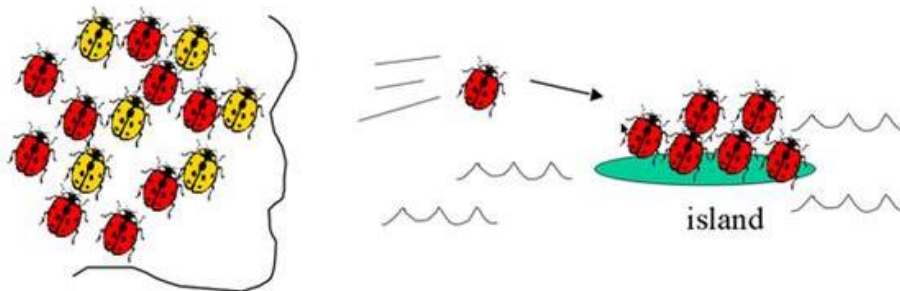
Identify the choice that best completes the statement or answers the question.

- _____ 1. Which of the following is an example of a population?
- a single deer
 - a group of deer
 - all the living things in a forest
 - all the mammals in a forest
- _____ 2. In a population of moths, moth colouration is governed by two alleles: dark (*B*) and light (*b*). In 2012, 30% of the alleles are *B* and 70% are *b*. In 2014, 20% of the alleles are *B* and 80% are *b*. Which of the following has occurred between 2012 and 2014?
- evolution by natural selection
 - mutation
 - microevolution
 - genetic drift
- _____ 3. Which of the following statements about mutations is **TRUE**?
- Mutations occur randomly during DNA replication.
 - All mutations are heritable.
 - All mutations are good.
 - New mutations cannot occur if heritable variation does not exist in the population.
- _____ 4. In which of the following instances could evolution by natural selection occur?
- a group of genetically identical, cloned sheep
 - a group of sheep: some with scars, some without
 - a group of sheep: some white, some brown because they rolled in the mud and got dirty
 - a group of sheep: some with larger teeth than others
- _____ 5. This table shows information about four male lions. Which of these lions would be considered the most fit and most successful at passing on its genes to future generations?

Name	George	Dwayne	Spot	Tyrone
Age at death	13 years	16 years	12 years	10 years
# cubs fathered	19	25	20	20
# cubs surviving to adulthood	15	14	14	19
Size	10 feet	8.5 feet	9 feet	9 feet

- George
- Dwayne
- Spot
- Tyrone

- ___ 6. What is the **original** source of all variation in any given population?
- founder effect
 - adaptation
 - mutation
 - evolution
- ___ 7. Which of the following statements is **TRUE** about genetic drift?
- Genetic drift is uncommon and only takes place under specific conditions.
 - Large populations experience it more frequently.
 - Fitness is important when determining which alleles will become more common and which will become less common.
 - Genetic drift is unpredictable.
- ___ 8. Starting in the 18th century, the fur trade caused sea otters to be hunted nearly to extinction. Many populations never recovered. In California, the population of sea otters has recovered to around 3,000 individuals - which is still low compared to population size prior to the fur trade. What is this the best example of?
- founder effect
 - heritable variation
 - population bottleneck
 - mutation
- ___ 9. Which process is most likely to cause a rare, heritable disease to become widespread in a population over time?
- evolution by natural selection
 - migration
 - new mutations
 - genetic drift
- ___ 10. Yellow and red beetles live on the mainland. One day, a small number of red beetles are blown over to an uninhabited island. Years later, there are many beetles on the island and they are all red.



Which of the following best describes this scenario?

- adaptation through survival and reproduction of the fittest
- founder effect
- genetic bottleneck
- migration

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Microevolution Practice Quiz
Answer Section

MULTIPLE CHOICE

- | | |
|------------|--------|
| 1. ANS: B | PTS: 1 |
| 2. ANS: C | PTS: 1 |
| 3. ANS: A | PTS: 1 |
| 4. ANS: D | PTS: 1 |
| 5. ANS: D | PTS: 1 |
| 6. ANS: C | PTS: 1 |
| 7. ANS: D | PTS: 1 |
| 8. ANS: C | PTS: 1 |
| 9. ANS: D | PTS: 1 |
| 10. ANS: B | PTS: 1 |