Internet Assignment 14: Evolutionary change

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

<http://highered.mcgraw-hill.com/sites/9834092339/student_view0/chapter20/animation_-_mechanisms_of_evolution.html>

1. What is evolution?
2. At what level must we consider evolution and why?
3. What are the 5 factors that alter the proportion of homozygotes and heterozygotes in a population? Describe each in the chart below

|  |  |
| --- | --- |
| Factor | Description |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. What are the 2 situations that lead to genetic drift?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. In gene flow, the variety of alleles of the new member can significantly affect the gene pool if the new member has what 2 characteristics?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. How are mutations transmitted and what effect do they have on the gene pool?
4. How common are mutations, and how does this affect evolution ?
5. What provides the ultimate source of genetic variability for evolution?
6. The fate of new alleles is likely to be determined by what 2 things?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. What criteria are necessary to maintain hardy Weinberg equilibrium in the gene pool?
8. How does reproduction in which there is a preferred mate (non-random mating) affect the gene pool
9. How do the different genetic make-ups of individuals within a population affect evolution via natural selection

<http://highered.mcgraw-hill.com/sites/9834092339/student_view0/chapter20/simulation_of_genetic_drift.html>

1. Genetic drift changes allele frequencies in a population over time due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Are larger or smaller populations more susceptible to changes in allele frequencies due to genetic drift? Explain.
3. What is it called when only one allele remains for a particular gene
4. When the population consists of only 20 individuals, how does the frequency of allele A changes differ from when the population originally consisted of 1,000 individuals?
5. Are large populations immune to allel fixation?

**Answer the 5 quiz questions at the bottom!**