Module 15: Darwin and Evolution

1. Define natural selection.
2. What is "descent with modification"?
3. Does an individual evolve, or does a population evolve?
4. Explain why heritable variation, competition, and differential survival are necessary for evolution.
5. In evolutionary biology, what does "fitness" mean? (Reproductive success)
6. Differentiate homologous structures (common ancestry) from analogous structures (convergent evolution).
7. What is a vestigial structure? Provide a human example.
8. All life uses DNA and the same genetic code. How does this support common ancestry?
9. If human hemoglobin is more similar to chimpanzee hemoglobin than dog hemoglobin, what does this imply?
10. Scenario**: A farmer sprays pesticide. 99% of insects die. Next year, only 50% die.
11. Did the insects "learn" resistance? Explain using natural selection.
12. Humans bred wolves into diverse dog breeds. How is artificial selection similar to and different from natural selection?