

Evolution Review Guide

1. What are the central ideas between catastrophism and gradualism?
2. Define Evolution
3. Explain the difference between Lamarck's and Darwin's Theories of Evolution.
4. What is the theory of uniformity? How did this influence Darwin?
5. Who was Thomas Malthus and how did his ideas influence Darwin?
6. What is artificial selection?
7. Explain the concept of fitness. How does this concept directly link to adaptations and evolution?

13. Are the results from the Hardy-Weinberg principle reflective of real-life scenarios? If not, how can these results be used to help us study real life?

14. Explain the following:

Gene pool

Microevolution

Genetic Equilibrium

Gene flow

Genetic drift

Bottleneck effect

Founder effect

Sexual Selection

15. Explain the difference between stabilizing selection, directional selection and disruptive selection.

16. Explain the types of pre-zygotic isolating mechanisms.

17. Explain the type of post-zygotic isolating mechanisms.

18. Explain allopatric speciation, sympatric speciation, and parapatric speciation.

19. In terms of evolution, what is stasis?

20. Explain Adaptive Radiation

21. What is phylogeny?

22. Explain, using the terms “derived traits” and “clade”, how a phylogenetic tree is created.
23. What is parsimony analysis? How is this used to find the “best fit” in cladistics?
24. Explain Homologous, Analogous and Vestigial structures.
25. Explain how DNA and protein comparison can be used to show evolutionary relationships.
26. Explain how comparative morphology can be used to show evolutionary relationships.
27. What are HOX genes?