

Collaborative Study Guide: Evolution Unit

Your table group is your study group today. Divide the essential questions below so that each person at your study table has some. Spend about 20 minutes answering your questions on a separate sheet. Then spend about 20-30 minutes taking turns going over the answers with the rest of the group.

1. What evidence convinced Darwin that species can change over time?
2. What 4 factors lead to adaptation and change?
3. How is random variation used in selection?
4. How does evidence in each of these areas of research help explain evolution? (i.e. what do each of these tell us about evolution and change?)
 - a. Biogeography
 - b. Radioactive dating
 - c. Fossils
 - d. Comparing anatomy and development
 - e. Genetics and molecular biology
 - f. Plate tectonics
5. How is evolution defined in genetic terms?
6. What are sources of genetic variation?
7. How does selection act on single gene and poly genetic traits?
8. What are the 5 conditions necessary for Hardy-Weinberg Equilibrium?
9. What leads to the formation of new species?
10. Where do new genes come from?
11. How may HOX genes be involved in evolutionary change?
12. How do molecular clocks work?
13. What do fossils reveal about ancient life?
14. How do we date events in Earth's history?
15. What happened during the Eras of Earth's history?
16. What are important patterns of macroevolution?
17. What do scientists hypothesize about the origin of life?
18. What theory explains the origin of eukaryotic cells?
19. What characteristics do all primates share?
20. What adaptations enabled hominid species to walk upright?
21. What is the current thinking about the genus *Homo*?
 - a. Out of Africa or multi regional?(Why?)
 - b. What climate event happened 74 kya? What were the implications of that event on humans?

Self Assessment. In complete, descriptive sentences, write a paragraph in which you respond to the following prompts:

1. After almost four weeks of learning about these topics, how prepared are you for a test tomorrow?
 - Did you take the right notes during class?
 - Did you learn the right main ideas from labs and films?
 - Did you read enough of the text?
 - Did you remember enough of the text?
2. Are you a good teammate in your study group?
 - Can you explain topics well enough that others can learn from you?
 - Are you effective at facilitating discussion?
 - How well do you critically listen to peer teaching?