

GEOLOGIC TIME STUDY GUIDE

Vocabulary:

trilobite	Darwin	Hadean Eon	plate tectonics
Precambrian time	geologic time scale	eon	era
period	epoch	organic evolution	species
natural selection	artificial selection	Pangaea	cyanobacteria
stromatolites	Jurassic Period	Mesozoic Era	Cenozoic Era
Paleozoic Era	gymnosperms	angiosperms	mammals
invertebrate	vertebrate	Archaean Eon	Lamarck
Proterozoic Eon	index fossil	Rodinia	Laurasia
Gondwanaland	Phanerozoic Eon	Trilobite Paradox	

Concepts:

1. Uses of index fossils.
2. Discuss the usefulness of trilobites in mapping geologic time.
3. Describe the "Trilobite Paradox" and its evidence regarding joined continents.
4. Match organisms to natural versus artificial selection.
5. Describe Darwin's contribution to scientific theory.
6. Describe Lamarck's ideas and how they compare with Darwin's.
7. Define the rules that identify a new species.
8. Discuss reasons why a new characteristic might become common in a species.
9. Identify the changes in Earth's crust that result from plate tectonics (collisions and separations).
10. Describe the reasons why we know so little about Precambrian life.
11. Define the difference between an invertebrate and a vertebrate.
12. Sequence the development of life forms on Earth.
13. Explain the features of ancient fish that enabled movement from water to land.
14. Discuss necessary physical changes that enabled amphibians to evolve into reptiles.
15. Identify the relative ages of mountain ranges.
16. Hypothesize as to the possible causes of the ends of the Paleozoic versus the Mesozoic Eras.
17. Identify the most common organism on Earth during the Mesozoic Era.
18. Identify the era of the most recent ice age.
19. State evidence supporting the idea that dinosaurs were warm-blooded animals.
20. State evidence supporting the idea that dinosaurs were social and nurturing animals.
21. Sequence the appearance of plants on Earth.
22. Identify reasons why angiosperms are the more diverse and abundant plant type today.
23. Propose the impact that human life had upon various early species.
24. Name the current era.
25. Identify the units of geologic time and the characteristics that differentiate those units.
26. Discuss the importance of cyanobacteria in the development of our atmosphere.
27. Recognize the fossil changes that mark the transition from one time period to another.
28. Explain the adaptations that enabled mammals to survive in many environments.
29. State the impact that ozone layer formation had on Earth's lifeforms.
30. Be able to sequence Earth atmospherically, geologically and biologically through time.
31. Explain the link among plate tectonics, natural selection, and organic evolution.
32. Describe how supercontinents might have effective life on Earth.