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Mr. Schmidt Science 8

eon epoch era geologic time scale mass extinction period

Precambrian correlation cross-cutting relationship key bed

Principle of inclusions original horizontality relative-age dating

superposition unconformity uniformitarianism absolute-age dating

dendrochronology half-life radioactive decay radiocarbon dating

radiometric dating varve altered hard part cast

evolution index fossil mineral replacement mold

original preservation trace fossil

1. Index fossil – remains of plants or animals that were abundant, widely distributed, and existed briefly that can be used by geologists to correlate or date rock layers.
2. Original horizontality – the principle that sedimentary rocks are deposited in horizontal or nearly horizontal layers.
3. Varve – alternating light-colored and dark-colored sedimentary layer of sand, clay, and silt deposited in a lake that can be used to date cyclic event and changes in the environment.
4. Evolution – the change in species over time.
5. Radioactive decay – emission of radioactive particles and its resulting change into other isotopes over time.
6. Cast – fossil formed when an earlier fossil of a plant or animal leaves a cavity that becomes filled with minerals or sediment.
7. Superposition – the principle that, in an undisturbed rock sequence, the oldest rocks are on the bottom and each consecutive layer is younger than the layer beneath it.
8. Mold – fossil that can form when a shelled organism decays in sedimentary rock and is removed by erosion or weathering, leaving a hollowed-out impression.
9. Unconformity – gap in the rock record caused by erosion or weathering.
10. Original preservation – describe a fossil with soft and hard parts that have undergone very little change since the organism’s death.
11. Mass extinction – occurs when an unusually large number of organisms disappear from the rock record at about the same time.
12. Radiometric dating – process used to determine the absolute age of a rock or fossil by determining the amount of parent nuclei to daughter nuclei within a given sample.
13. Geologic time scale – record of Earth’s history from its origin 4.6 bya to the present.
14. Eon – longest time unit in the geologic time scale.
15. Half-life – period of time it takes for a radioactive isotope, such as carbon-14, to decay to one-half of it original amount.
16. Precambrian – unit of geologic time consisting of the first three eons during which Earth formed and became hospitable to life.
17. Correlation – matching of rock outcrops of one geographic region to another.
18. Radiocarbon dating – determines the age of relatively young organic objects; objects that are alive or were once alive.
19. Mineral replacement – the process where pore spaces of an organism’s buried parts are filled in with mineral from groundwater.
20. Key bed – a rock or sediment layer that serves as a time marker in the rock record and results from volcanic ash or meteorite-impact debris that spread out and covered large areas of Earth.
21. Cross-cutting relationship – the principle that an inclusion is younger than the rock it cuts through.
22. Principle of inclusions – the principle that fragments, called inclusions, in a rock layer must be older than the rock layer that contains them
23. Altered hard parts – fossil whose organic material has been removed and whose hard parts haven been changed by recrystallization or mineral replacement.
24. Absolute-age dating – method that enables scientists to determine the actual age of certain rocks and other objects.
25. Relative-age dating – establishing the order of past geologic events.
26. Dendrochronology – science of using tree rings to determine absolute age; helped to date relatively recent geologic events and environmental changes.
27. Epoch – time unit in the geological time scale, smaller than a period, measured in hundreds of thousands to millions of years.
28. Period – third-longest time unit in the geological time scale, measured in tens of millions of years.
29. Uniformitarianism – the theory that geologic processes occurring today have been occurring since Earth formed.
30. Trace fossil – the only indirect fossil evident of an organism; traces of worm trails, footprints, and tunneling burrows.
31. Era – second-longest time unit in the geologic time scale, measured in tens to hundreds of millions of years, and defined by differences in life-forms that are preserved in rocks.