

Chapter 23

1. The geological timescale was first developed using the fossil record, but this provided only a system of relative dating; absolute dates were not established until the discovery of _____.

- the biological species concept
- radioactive decay
- paraphyletic domains
- molecular biology

Score: 1 of 1

2. The evolutionary history of a group of organisms is called a _____.

- half-life
- phylogeny
- fossil record
- synapomorphy
- homologous event

Score: 1 of 1

3. The amount of time it takes for a radioactive element to decay to its more stable form is called its _____.

- molecular clock
- phylogeny
- geologic timescale
- half-life
- extinction

Score: 1 of 1

4. A taxon that includes a single common ancestor and some, but not all, of its descendants is a _____ group.

- monophyletic
- paraphyletic
- polyphyletic

Score: 1 of 1

5. How does the fossil record corroborate phylogenetic history?

- The timing of evolutionary events in the fossil record is not consistent with the branching order of a phylogenetic tree.
- Events in the fossil record occur randomly throughout a phylogenetic tree, so the two are not related to one another.
- Events that occur early in the fossil record are represented by branching events nearer to the root of a phylogenetic tree.
- Events that occur early in the fossil record are represented by branching events nearer to the tips of a phylogenetic tree.
- Fossil record events are too old to be represented on phylogenetic trees, which reconstruct the more recent past.

Score: 1 of 1

6. Why is the fossil record of marine life more complete than living organism in terrestrial ecosystems?

- Marine habitats are places that sedimentation, rather than erosion, will take place.
- Organisms that live in marine environments don't have bones or other hard body parts.
- Organisms that live in terrestrial habitats are evolutionarily too old to fossilize.
- Fossilization cannot occur without water acting to preserve body part from decomposition.

Score: 1 of 1

7. How do fossils provide evidence of evolutionary history?

- Fossils provide an accurate account of the number of species that exist at any particular time.
- Older fossils are an excellent source of DNA from which we can construct molecular phylogenies.
- Fossils provide a record of extinct species.
- Fossils provide complete information on extinct species.

Score: 1 of 1

8. What is the first event in the fossilization process?

- erosion of soils around the organism
- burial of the organism by sediments
- conversion of organic tissue to minerals (rock)
- hardening of sediments in to rock

Score: 1 of 1

9. The largest mass extinction occurred at the end of the:

- Ordovician.
- Devonian.
- Permian.
- Triassic.
- Cretaceous.

Score: 1 of 1

10. What is a trace fossil?

- a small fossil
- fossil evidence of organisms other than conventional fossils of hard body parts
- a fossil which is part of a series of fossils that trace the evolution of a group of species
- a fossil that allows scientists to trace the movement of the fossilized organism

Score: 1 of 1