Dinosaurs and Fossils

Use this key to check answers and read the explanations.

1. Which living animals belong to the dinosaur branch of the animal family tree?
   - A. Birds
   - B. Bats
   - C. Whales
   - D. Frogs

   Correct answer: A. Birds
   Modern birds are descendants of theropod dinosaurs and are classified as avian dinosaurs.

2. What is the usual name for a scientist who studies prehistoric life through its fossils?
   - A. Astronomer
   - B. Meteorologist
   - C. Paleontologist
   - D. Seismologist

   Correct answer: C. Paleontologist
   Paleontologists study remains and traces of past life.

3. Which name belongs to a long-necked sauropod dinosaur?
   - A. Triceratops
   - B. Diplodocus
   - C. Tyrannosaurus
   - D. Stegosaurus

   Correct answer: B. Diplodocus
   Diplodocus belongs to the sauropod group, characterized in part by its long neck.

4. Which dinosaur is especially recognizable by three horns and a large bony frill?
   - A. Velociraptor
   - B. Diplodocus
   - C. Stegosaurus
   - D. Triceratops

   Correct answer: D. Triceratops
   Triceratops had two large horns above the eyes, a smaller one on the nose, and a bony frill.

5. What group of extinct flying reptiles lived alongside dinosaurs but was outside the dinosaur group?

A. Sauropods
B. Pterosaurs
C. Ceratopsians
D. Ornithopods

Correct answer: B. Pterosaurs
Pterosaurs share reptile ancestry with dinosaurs and are classified as a separate group.

6. Which sequence places the three Mesozoic periods in order from earliest to latest?

A. Triassic, Jurassic, Cretaceous
B. Jurassic, Triassic, Cretaceous
C. Cretaceous, Jurassic, Triassic
D. Triassic, Cretaceous, Jurassic

Correct answer: A. Triassic, Jurassic, Cretaceous
The Triassic was followed by the Jurassic and then the Cretaceous.

7. Which fossil most directly records that an animal once stepped on a surface?

A. A fragment of jawbone
B. An isolated tooth
C. A loose piece of eggshell
D. A footprint impressed into ancient sediment

Correct answer: D. A footprint impressed into ancient sediment
A fossil footprint preserves part of the animal’s contact with the ground.

8. What does a dinosaur embryo preserved inside a fossil egg directly establish about that animal?

A. Its parents lived underground.
B. It hunted in a pack.
C. It developed in an egg.
D. It could fly as an adult.

Correct answer: C. It developed in an egg.
An embryo inside the egg links egg development to the identifiable animal.

9. Which fossil feature would be most useful when testing how Triceratops processed plant material?

A. The shape and wear of its teeth
B. The length of a nearby fossil footprint
C. The color of the layer above the skeleton
D. The number of rocks displayed in the museum case

Correct answer: A. The shape and wear of its teeth
The shape of the teeth and signs of wear help scientists infer how the jaws cut or ground food.

10. Where would a paleontologist most reasonably begin looking for intact Mesozoic bones in the field?

A. A glacier formed in the past decade
B. A recently solidified lava flow
C. A freshly paved highway
D. An exposed sedimentary layer of Mesozoic age

Correct answer: D. An exposed sedimentary layer of Mesozoic age
Appropriately aged sedimentary layers can preserve organisms buried during the Mesozoic.

11. Roughly when did the last non-avian dinosaurs disappear?

A. 660,000 years ago
B. 6,600 years ago
C. 66 million years ago
D. 660 million years ago

Correct answer: C. 66 million years ago
The extinction marks the end of the Cretaceous about 66 million years ago. The bird lineage survived.

12. What can a sequence of consecutive footprints from one individual help estimate more directly than a single print can?

A. Its precise color
B. Its stride length
C. The number of eggs it laid
D. The detailed shape of its teeth

Correct answer: B. Its stride length
Spacing between prints records how far the foot moved between consecutive placements.

13. Why does a fossil with feather impressions require more evidence before scientists can conclude that its animal flew?

A. Feathers are present only on aquatic animals.
B. Feathers always form only after an animal dies.
C. No fossil can retain an impression of a feather.
D. Feathers occur in some flightless dinosaurs and can serve other functions.

Correct answer: D. Feathers occur in some flightless dinosaurs and can serve other functions.
Feathers evolved before powered flight and can serve functions such as insulation and display.

14. A site preserves a row of three-toed track impressions but no bones. What is the most defensible initial claim?

A. The tracks give evidence about foot shape and movement, while exact species identification needs more evidence.
B. The tracks prove which named species made them.
C. The tracks prove the animal lacked feathers.
D. The tracks prove how long the animal lived.

Correct answer: A. The tracks give evidence about foot shape and movement, while exact species identification needs more evidence.
Different animals can leave similar tracks. The trace is useful even when it cannot identify a precise species.

15. Which discovery would give the most direct support for identifying a cluster of fossil eggs as belonging to one dinosaur group?

A. The same color of rock at a second site
B. A recent footprint several kilometers away
C. Identifiable embryos inside several eggs in the cluster
D. An isolated adult tooth from a much older layer

Correct answer: C. Identifiable embryos inside several eggs in the cluster
Diagnostic features inside the eggs connect the remains to the egg cluster itself.