

DINOSAURS UNIT STUDY WORKBOOK

Five ready-to-use activities generated through HomeTrail's Nest pack system for a fourth-grade learner. Print the pages you need and use the separate audio episode alongside the workbook.

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Deep Dive

Dinosaur Detectives: How Fossils Change What We Know

Paleontologists study fossils to learn about dinosaurs that lived long ago. Their clues include fossilized bones and the shapes of skeletons. As new evidence is found, scientists may strengthen, change, or correct an earlier claim.

Bones Tell a Story

A dinosaur's skeleton can reveal important clues about what kind of animal it was and how it was related to other animals. Scientists compare features in bones with features in other skeletons. This helps them sort dinosaurs into groups. It also helps show that birds are living dinosaurs because birds share important skeleton features with dinosaurs.

Use All the Clues

One fossil does not answer every question. Paleontologists compare many fossils and look closely at their details. This careful work helps separate true dinosaurs from other ancient animals. Pterosaurs were close relatives of dinosaurs, but they were not dinosaurs. Plesiosaurs and ichthyosaurs were marine reptiles, and mammoths and mastodons were mammals.

Time Can Change a Claim

Fossils also help scientists understand when animals lived. Different dinosaurs lived at different times. Stegosaurus and Tyrannosaurus rex did not meet because T. rex lived about 80 million years after stegosaurs had disappeared. New discoveries and new comparisons can revise scientific ideas. Today, many scientists use the terms non-avian dinosaurs for the traditional extinct dinosaurs and avian dinosaurs, or birds, for their living relatives.

Remember these

- Fossilized bones and skeleton features provide clues about dinosaur groups.
- Scientists compare evidence instead of relying on one fossil.
- Not every large ancient animal was a dinosaur.
- Different dinosaurs lived at different times.
- Birds are living dinosaurs descended from dinosaur ancestors.

Try this

Choose two animals from this list: a bird, pterosaur, mammoth, plesiosaur, or dinosaur. Draw a simple skeleton clue you might compare, such as a leg bone or part of the backbone. Then discuss: What evidence would help you decide whether the animals belong to the same group? Remember that looking alike in size is not enough.

Think about it

How might finding a new fossil cause paleontologists to change an idea about a dinosaur or its relatives?

Sources

- [404 - Page Not Found | Smithsonian National Museum of Natural History](#)naturalhistory.si.edu
- [The Dinosauria](#)ucmp.berkeley.edu



How Paleontologists Learn About Dinosaurs

Instructions: Read each question carefully and select the best answer. When you're ready, tap Submit to see your results.

0 of 10 answered

1. What can a dinosaur bone help paleontologists learn?

- ☐ A. The dinosaur's favorite season
- ☐ B. The dinosaur's possible size and body shape
- ☐ C. The exact color of the dinosaur's eyes
- ☐ D. The sound of every dinosaur call

2. A row of footprints shows that one dinosaur took larger steps than another dinosaur nearby. What is a reasonable claim?

- ☐ A. Both dinosaurs must have been exactly the same age
- ☐ B. The dinosaur with larger steps definitely had blue skin
- ☐ C. The dinosaur with smaller steps was not a real dinosaur
- ☐ D. The dinosaur with larger steps may have been bigger or moving faster

3. Why do paleontologists study the rock layers around a fossil?

- ☐ A. The layers tell the exact thoughts of the dinosaur
- ☐ B. The layers prove that every dinosaur lived in the same place
- ☐ C. The layers make old bones become new again
- ☐ D. The layers can help show when the dinosaur lived compared with other fossils

4. Paleontologists find sharp teeth, claws, and bones that suggest strong muscles in a dinosaur. Which claim is best supported?

- ☐ A. The dinosaur could fly long distances

- ☐ B. The dinosaur definitely lived underwater
- ☐ C. The dinosaur ate only soft plants
- ☐ D. The dinosaur may have hunted or eaten meat

5. A paleontologist first thinks a trackway was made by a slow-moving dinosaur. Later, the footprints are found to be far apart and point uphill. What should the paleontologist do?

- ☐ A. Revise the claim because the new evidence may suggest the dinosaur moved quickly
- ☐ B. Erase the footprints so no one can study them
- ☐ C. Claim that the dinosaur was flying
- ☐ D. Ignore the new evidence because the first claim cannot change

6. Which evidence could help show that two dinosaur bones belong to the same kind of dinosaur?

- ☐ A. The bones are displayed in the same room
- ☐ B. The bones were found on the same day
- ☐ C. The bones have similar shapes and are found in similar rock layers
- ☐ D. The bones are painted the same color by a museum

7. A fossilized nest contains several eggs and tiny dinosaur bones. What might this evidence help paleontologists claim?

- ☐ A. Dinosaurs never lived in groups
- ☐ B. All dinosaurs were born able to fly
- ☐ C. Some dinosaurs laid eggs and may have cared for or stayed near their nests
- ☐ D. Every dinosaur nest contained the same number of eggs

8. Paleontologists use more than one kind of evidence, such as bones, trackways, and rock layers, to study dinosaurs.

- ☐ True

☐ False

9. Once a paleontologist makes a claim, new evidence should never change it.

☐ True

☐ False

10. A single footprint can always tell paleontologists exactly how fast a dinosaur was moving.

☐ True

☐ False

Word Search: dinosaurs, fossils, paleontology, sediment, excavation, evidence, trackways, herbivores, carnivores, and geologic time

Travel through geologic time as you uncover dinosaur clues! Search for fossils, trackways, ancient layers, and other words paleontologists use to study Earth's prehistoric past.

12 words left to find.

D	D	R	I	Z	P	H	S	R	C	E	O
B	O	I	C	H	N	A	T	B	X	P	F
L	G	D	N	S	X	G	R	C	J	R	I
T	T	R	V	O	H	U	A	H	U	E	T
K	T	C	A	F	S	V	T	R	R	D	I
F	W	J	W	Z	A	A	A	O	A	A	M
O	R	A	E	T	E	W	U	A	S	T	E
S	R	L	E	N	X	R	X	R	S	O	L
S	E	D	I	M	E	N	T	C	I	R	I
I	G	E	O	L	O	G	Y	P	C	Q	N
L	T	R	A	C	K	W	A	Y	Y	C	E
S	U	E	V	I	D	E	N	C	E	E	O

Find these words:

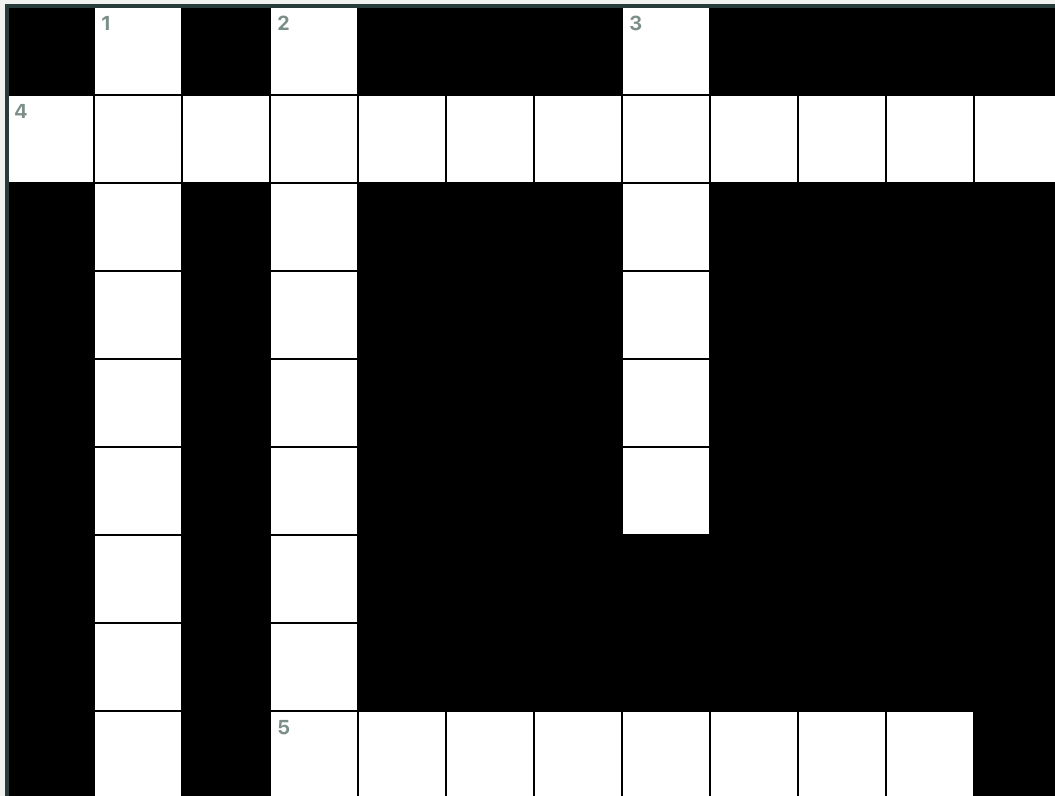
- DINOSAUR
- SEDIMENT
- EXCAVATE
- EVIDENCE
- TRACKWAY
- PREDATOR
- TIMELINE
- JURASSIC
- FOSSILS
- GEOLOGY
- GRAZER
- STRATA



Dinosaur Discoveries Crossword

Instructions: Tap a clue, then fill each box with one letter. Tap again to switch between Across and Down.

5 clues left.



ACROSS

4. The scientific study of ancient life using fossils and other clues.

5. To carefully dig in the ground to uncover fossils or other objects.

DOWN

1. An animal that eats meat or other animals.

2. An animal that eats plants, such as leaves, fruit, or grasses.

3. The preserved remains or traces of a plant or animal from long ago.

