

POWERHOUSE SCIENCE CENTER

3615 Auburn Blvd., Sacramento 95821 (916) 674-5000

Topics

Earth and Space Sciences

Grades

2 - 3

Duration

60 minutes

Vocabulary

digest, dinosaur, extinct, fossil, model, paleontologist, carnivore, herbivore, omnivore, petrified wood, amber

Next Generation Science Standards

Practices

Constructing Explanations and Designing Solutions

Analyzing and interpreting data

Core Ideas

ESS1.C: The History of Planet Earth

LS4.A: Evidence of Common Ancestry and Diversity

Crosscutting Concepts

Stability and Change

Scale, Proportion, and Quantity

Fossils

Overview

Fossils not only provide evidence about the types of plants and animals that lived millions of years ago but also show us how our planet has changed. Students learn that fossils are mineral replacements, preserved remains or traces of organisms that lived in the past. With a focus on dinosaurs students explore dinosaur fossil bones, amber with insect inclusions, dinosaur stomach stones, fossilized scat, replicas of dinosaur claws, teeth, eggs and more.

Objectives

- Students learn how fossils are formed.
- Students use fossils to understand that the earth has changed over millions of years.
- Students visualize the kinds of extinct animals that lived millions of years ago.
- Students distinguish herbivore from carnivore.

Teacher Preparation

- Programs are designed to be presented in the classroom.
- Educators are able to break down materials, move to the next classroom and set-up again for the next presentation.
- Set-up usually takes about 5-10 minutes.
- Educators greatly appreciate access to your room before the program, especially if the program starts immediately following a recess or lunch.
- Student seating can be at your discretion (chairs or floor), as you know your classroom's personality and preferences best.
- The teacher is required to remain in the class at all times.
- Educators will need 4-5 stations to set up. Student desks may be joined or large tables will work as stations.

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Next Generation Science Standards

Performance Expectations

2ESS1-1: Use information from several sources to provide evidence that Earth events can occur quickly or slowly

3-LS4-1- Analyze and interpret data from fossils to provide evidence of the organisms and environments in which they lived long ago

Vocabulary:

Digest: breaking down food to get nutrients

Dinosaur: an extinct reptile that lived on Earth millions of years ago

Extinct: a once living thing that no longer exists on Earth; gone forever

Fossil: any trace of an ancient animal or plant most often preserved in rock

Model: (as opposed to FAKE) an exact replica; a scientifically correct copy

Fossils

Extended Learning Activity

-American Museum of Natural History

Smaller Than You Think:

In this activity students compare a life-size drawing of a Tyrannosaurus rex head and a full-size Sinornithosaurus body to understand that dinosaurs varied in size.

- <https://www.amnh.org/explore/curriculum-collections/dinosaurs-activities-and-lesson-plans/smaller-than-you-think>

Be a Paleontologist

Have your students assemble fossil bones to reveal the dinosaur.

Teachers print the template (included), on cardstock; have students cut the fossil bones, assemble and glue them on to construction paper

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Vocabulary Continued:

Paleontologist: a scientist who studies fossils

Carnivore: an animal that eats only meat

Herbivore: an animal that eats only plants

Omnivore: an animal that eats both meat and plants

Petrified wood: wood that has fossilized – all the original chemicals in the wood have been replaced with minerals

Amber: translucent fossilized tree resin

Quote:

“Kids like their fossils. I’ve taken my godson fossil-hunting and there’s nothing more magical than finding a shiny shell and knowing you’re the first person to have seen it for 150 million years.”

— Sir David Attenborough

Fossils

Resources

-United States Geological Survey

USGS Kids:

<https://education.usgs.gov/kids/index.html>

Save Animal Tracks as Plaster Casts:

<https://education.usgs.gov/kids/tracks.html>

Dinosaurs: Facts and Friction

<https://pubs.usgs.gov/gip/dinosaurs/>

-TED Ed:

The ferocious predatory dinosaurs of Cretaceous Sahara:

https://www.youtube.com/watch?v=8RIOJnB_OaE

Dinosaur Skeleton Pieces

