



What Is a Fossil?

Introduction

A fossil is any evidence of prehistoric life that is at least 10,000 years old. The most common fossils are bones and teeth, but footprints and skin impressions are fossils as well. Fossils are excavated from ancient riverbeds, lakes, seafloors, caves, volcanic ash falls, tar pits, and other areas. Fossils are classified as either body fossils or trace fossils. Body fossils were parts of the organism, such as bones or teeth. Trace fossils are a record of biological activity. They include foot impressions, eggs, burrows, and dung.

Objective

In this activity, students will learn that fossils are evidence of past life and to distinguish between body fossils and trace fossils. Students arrange fossils on a timeline to grasp when dinosaurs and other ancient organisms lived.

Time Frame

One class period (40 minutes)

Materials Included

- Museum Display: dinosaur bone, fish plaque, and coprolite
- *T. rex* tooth cast (with label)
- Additional fossils for student investigation
 - 6 plant fossils
 - 6 fossil teeth
 - 6 ammonites/trilobites/crinoid fossils
 - 3 coprolites
 - 6 animal fossils
 - 3 dinosaur trackway casts

Online Materials to Print

- Student worksheets
- Timeline activity

Online Resources

[What is a fossil?](#) (5-minute video)

Classroom Setup

Arrange up to six tables. Place an assortment of 4–5 fossils on each table. Each assortment should have at least one of each of the following: tooth fossil, animal fossil, plant fossil, and another fossil, either a coprolite or trackway.

Classroom to Provide

Crayons or pencils, and scissors

Procedure

Part 1: What is a fossil?

1. Surface prior knowledge by asking students what a fossil is. Write their answers on the board. (*Answers may include dinosaurs, extinct animals, etc...*) Show students the Museum Display fossils. Point out that the *T. rex* tooth is a cast. Explain that casts are exact replicas of fossils, and scientists use them to study and display fossils which are often too fragile to handle. (5 minutes)
2. Tell students that they are going to examine an assortment of fossils at their tables. Ask students to closely examine their fossils and to discuss what the objects are and what all of them have in common. (5 minutes)
3. Pass out worksheets and have students fill them out. (10 minutes)
4. Ask students: “After examining your fossils, did your idea of what a fossil is change?” Refer to their answers from the beginning of the lesson. Surface a new understanding of what a fossil is. Make sure students understand that fossils are evidence of ancient life, including plants and animals, and traces of life. (5 minutes)

Part 2: When did they live?

1. Pass out the Fossil Timeline worksheet. Tell students that the fossils on the worksheet are similar to the ones on their tables. Ask them if

they can match their fossils to the ones on the worksheets. Working in pairs or as a whole table, have students cut out the six objects and put them in order from oldest to youngest. Tell them that “mya” means millions of years ago and that the higher the number, the older the specimen. (10 minutes)

2. **Grades K-2:** Pair student groups and have each group share their fossils with their paired group, telling them about what their fossils are. (5 minutes)

Grades 3-5: Show students [this video](#) about what

Standards

NYS P-12 Science Learning Standards

2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.

2-ESS1: Some events happen very quickly others occur very slowly, over a time period much longer than one can see.

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

NYS Next Generation ELA Learning Standards

K-2: SL1/SL2 (Comprehension and Collaboration):

Participate in collaborative conversations with diverse peers and adults in small and large groups and during play. Develop and answer questions and describe key ideas or details of diverse texts and formats

3-5: SL1 (Comprehension and Collaboration): Participate and engage effectively in a range of collaborative discussions with diverse peers and adults, expressing ideas clearly and persuasively, and building on those of others.

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Draw the object:

What is it?

- Animal
- Plant
- Other: _____

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1. What do they all have in common?

2. What is a fossil?

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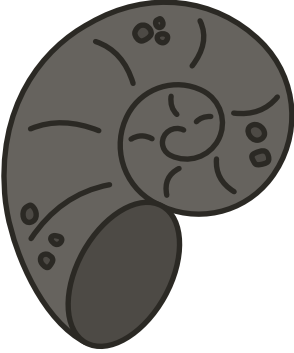
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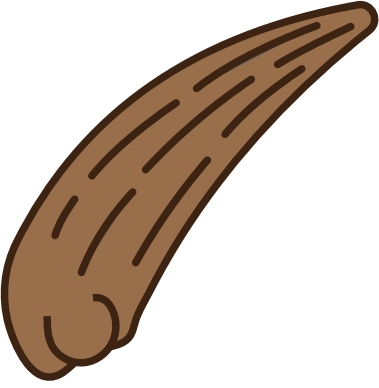
Fossils



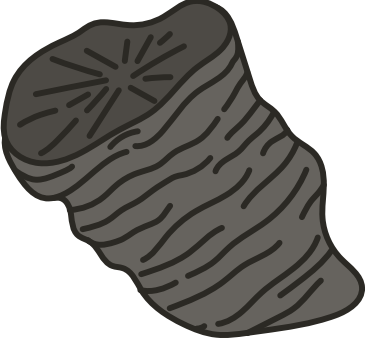
Museum IN A BOX



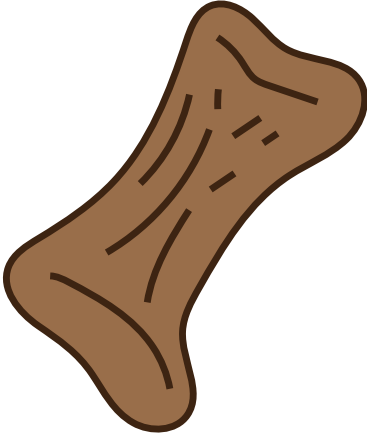
Ammonite
180 mya

A fossil of an ammonite, showing a dark grey, spiral shell with several small circular openings on its surface.

Bear tooth
24,000 mya

A fossil of a bear tooth, depicted as a curved, brown, pointed object with a textured surface.

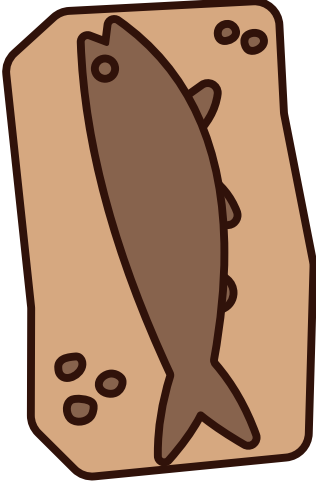
Devonian coral
385 mya

A fossil of Devonian coral, shown as a dark grey, irregularly shaped object with a textured, ribbed surface.

Dinosaur bone
180 mya

A fossil of a dinosaur bone, depicted as a brown, irregularly shaped object with a textured surface.

Dinosaur trackway cast
195 mya

A fossil of a dinosaur trackway cast, shown as a brown, irregularly shaped object with a textured surface and several small circular openings.

Fish plaque
48 mya

A fossil of a fish plaque, depicted as a brown, irregularly shaped object with a textured surface and several small circular openings.

mya = million years ago