

Carbonized and Petrified Fossils

Lesson Overview

Students will be introduced to petrified and carbonized fossils. They will use interactive science notebooks and paired reading to support their learning.

Standards Addressed

- SC 2005 8-2.2 Summarize how scientists study Earth’s past environment and diverse life forms by examining different types of fossils (including molds, casts, petrified fossils, preserved and carbonized remains of plants and animals, and trace fossils.)
- SC 2014 8.E.6A.4 Construct and analyze scientific arguments to support claims that different types of fossils provide evidence of (1) the diversity of life that has been present on Earth, (2) relationships between past and existing life forms, and (3) environmental changes that have occurred during Earth’s history.
- NGSS MS-LS 4-1 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

Disciplinary Literacy Best Practices

Say Something
Flow Map
Exit Ticket

Lesson Plan

Time Required: One 60-minute Class Period

Disciplinary Vocabulary:

fossil, carbonized, petrified, sediment

Materials Needed:

- “Petrified and Carbonized Fossils” Partner Reading
- Check for Understanding Handout
- Student Science Notebooks
- Colored Pencils

Assessment:

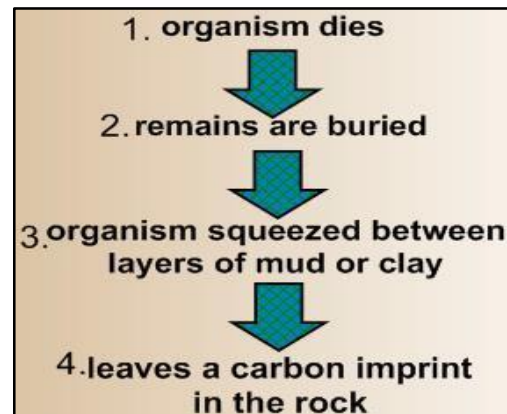
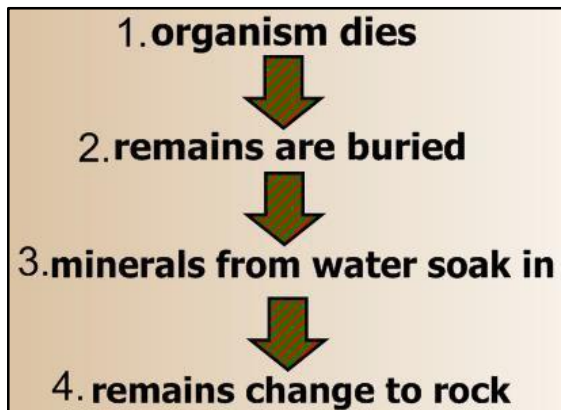
Check for Understanding Handout (administered as Exit Slip)

Engage and Explore

- Students will read the text selection “Petrified and Carbonized Fossils” using the Say Something strategy.
- When the paired reading is completed, students will share with the whole group ideas from the “what he/she said” portion of the document.
- Students will insert the completed document into their notebooks, or the teacher may choose to collect the documents to review.

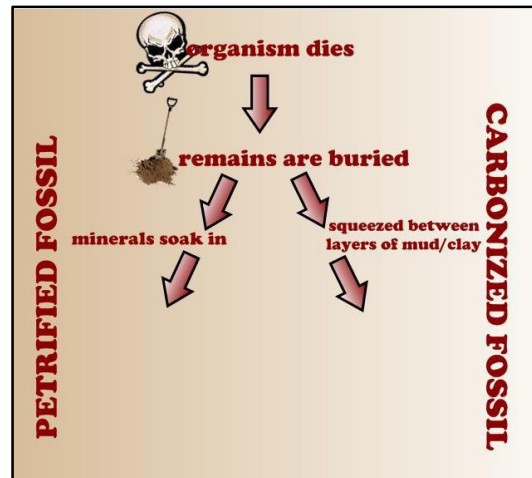
Explain

- The teacher will show students the steps that are involved in the process that creates both a petrified and carbonized fossil. Students will document the steps on the right side of their notebook as a list.



Extend

- On the left side of the student science notebook, students will create a divided flow map to distinguish where the different steps lead to the separate fossil types. They should create an illustration for each of the steps that shows they understand what is happening at each step.
- Sample Flow Map:



- Exit Ticket: Check for Understanding
 1. What is a petrified fossil, or how does it form?
 2. Carbon films, also called carbonized fossils, form when...

Teacher Reflections and Biographical Information

This lesson allows students to read, hear, see and write about how the fossil types are created. When possible, it is helpful to have examples of these fossils available for students to examine and use as an example while illustrating.

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Petrified and Carbonized Fossils

Read the following paragraph.

A fossil may form when the remains of an organism become petrified. The term petrified means “turned into stone.” Petrified fossils are fossils in which minerals replace all or part of an organism. Fossil tree trunks are an example of petrified wood. These fossils formed after sediment covered the wood. Then water rich in dissolved minerals seeped into spaces in the plant’s cells. Over time, the minerals come out of solution and harden, filling in all of the spaces. Some of the original wood remains, but the minerals have hardened and preserved it.



Stop here!

Turn to your table partner and say something about what you just read!
Then listen to them say something else!

What you said, “ _____.”

What he/she said, “ _____.”

Next, read the following paragraph.

Another type of fossil is a carbon film, an extremely thin coating of carbon on rock. How does a carbon film form? Remember that all living things contain carbon. When sediment buries an organism, some of the materials that make up the organism evaporate, or become gases. These gases escape from the sediment, leaving carbon behind. Eventually, only a thin film of carbon remains. This process can preserve the delicate parts of plant leaves and insects.



Stop here!

Turn to your table partner and say something about what you just read!
Then listen to them say something else!

What you said, “ _____.”

What he/she said, “ _____.”

You shall identify what you are called here: _____ (that's your name!)

Today's Check for Understanding!

Complete the following questions.

Petrified Fossils

*What is a petrified fossil,
or how does it form?*

Carbon Film

*Carbon films, also called carbonized fossils,
form when...*