

# Beneath the Bedrock

## Grades 9-12 Educational Program Guide

**PASS** High School Science Process 1.1, 1.2, 2.2, 3.1, 4.1, 4.3, 5.1

**OAS** HS-ESS3-5| Science Practices 1, 2, 4, 6, 7, 8

### Program Overview

Fossils and fossil fuels both formed over millions of years and hold great interest to scientists. In this program, students will explore the similarities and differences between fossils and oil. They will also use maps, diagrams and other models to discover the relationship between these two important resources.

### Objectives

After participating in this program, students will be able to:

- Learn about a natural mineral resource, oil, found in Oklahoma.
- Learn about how these natural resources form and compare their formation with the formation of fossils.
- Use the comparison between how fossils and mineral resources form to identify the question "Does oil come from dinosaurs?".
- Use fossil and other geological evidence to determine if fossil fuels come from dinosaurs.

### Background

Geologists study the earth and things that come from the earth such as oil and fossils. Many of these things were formed over millions of years and can give us lots of information about the past. Some of these things can even be useful to people today. Things that come from the earth that people use are called "natural resources." Oil is an example of a natural resource.

When scientists look for oil, they cannot just look anywhere. Oil is only found in certain places and finding it requires knowledge of geologic processes in specific areas.

## At the Museum

### Hall of Ancient Life

As your class visits this gallery, find the display of oil formation in the Devonian Period section of the gallery. This display is below the fossil skull of the large armored jaw-fish.

Next, explore the Pennsylvanian Coal-swamp to learn about another natural resource in Oklahoma; coal! Look for the lycopod trees. Their roots are the source for the coal we have in our state.

## Vocabulary

**Geology** the study of the earth and how it changes over time

**Fossil** The bones, impressions, or traces of plants and animals preserved in rocks.

**Petroleum (Oil)** a naturally occurring, yellow-to-black liquid found in geological formations beneath the Earth's surface

**Geologic Time Scale** a system of chronological measurement that is used by geologists, paleontologists, and other Earth scientists to describe the timing and relationships between events that have occurred throughout Earth's history

**Sedimentary Basin** An area where geologic activity has caused rock layers to thin out over time. Sediment (sand and silt) may fill in these thin areas forming basins. Sedimentary basins are often important sources of oil.