

BECOMING A GEODETECTIVE – SOLVING EARTH’S MYSTERIES

OBJECTIVES

- To introduce the concept of a trace fossil.
- To point out that the fossil record contains not only body fossils but also the preserved behavioral patterns of animals.
- To introduce a clastic sedimentary rock called shale/sandstone that in the geologic past was once soft, unconsolidated, within and upon which animals may have crawled, dwelled, grazed, rested, and/or preyed.

CLASS DISCUSSION

- Traces, both fossil and modern, are biologically produced sedimentary structures that include tracks, trails, burrows, borings, fecal pellets, and other traces made by the life processes of organisms.
- Many trace fossils are formed by the activities of organisms that generally are not preserved because they lack hard parts. For example: worms, sea anemones, starfishes, sea cucumbers, and shrimp.
- Traces reflect the behavioral functions of the organism such as resting, crawling, dwelling, grazing, feeding, preying, and escaping.
- Trace fossils are of importance primarily as indicators of animal behavior and where preserved intact, they are closely related to the environment in which they were formed.
- Trace-makers are rarely preserved with their traces.
- Look for “traces” of modern organisms near their home, for example, dog or cat footprints, bird tracks, deer tracks, people footprints, insect trackways left on a dried-up mud puddle, earthworm burrows, mud-dauber nest, slug trail, etc.

CLUES

- I am the result of some behavioral activity of an organism.
- What produced me is rarely preserved with me.
- Some other examples of me include footprints, tunnels, and trackways.

QUESTIONS

1. What am I called? _____
2. What organism do you think made me? _____
3. Why is the trace-maker rarely found with the trace fossil? _____



Bird Tracks



Reptile Trackway



Worm Burrow



Trilobite Trail

4. Name some biological activities of organisms that may be found preserved as trace fossils in the rock record.

5. How do geologists hypothesize as to what organism may have produced a particular trace fossil in rocks millions of years old?

Some Examples of Trace Fossils

Answer these questions by visiting: <https://nie.newsok.com/educators/curriculum/oklahoma-rocks-fossils-come-alive/> and be entered into a drawing to win a **\$250.00 VISA Gift Card**.

ALL ENTRIES ARE DUE BY DECEMBER 28, 2016. Also, if you win, your teacher will win a **\$500.00 VISA Gift Card**. The drawing will be held on December 29, 2016.