Name Date Class

SECTION 1 Enrichment

The Hermit Trail Fossil Tracks

Even if you've never been to the Grand Canyon in northwestern Arizona, you've probably read or heard about its size, beauty, and colorful rock formations. But the canyon is also rich with permineralized remains and other fossils. Fossils of sponges, crinoids, bryozoans, brachiopods, mollusks, and plants have all been found there.

An Old, Cold Trail

Of particular interest are the fossilized reptile tracks found on the Hermit Trail. The Hermit Trail is an old Native American route that was originally called Horsethief Trail, but was later renamed for a small camp, Hermit Camp, built at the end of the trail near Hermit Creek. From the late 1800s until the 1930s, Hermit Trail was a bustling place, serving as an entrance to the canyon. Today, tourists visit Hermit Trail, looking at the scenery, rock formations, and the fossilized footprints of several reptile species.

The reptile tracks were found in the Coconino sandstone formations along the Hermit Trail. Coconino sandstone is a cream-colored rock that probably formed from desert-like sand dunes that existed some 270 million years ago. Geologists believe the grains of sand were compressed and, with the addition of bubbling, mineralized groundwater became cemented into the rock we find there today.

Walking the Dunes

Several different-sized reptiles made the tracks, probably by walking in the sand dunes after a rainfall. Just by examining the pattern of the tracks, geologists believe that one of the reptiles pushed back loose sand as it climbed up the dune. They also believe that an animal roughly the size of a cow made the largest of the tracks.

The tracks are examples of trace fossils, the only kind found in the Coconino sandstone. Trace fossils are not fossils in the traditional sense. Instead, they are fossils of something other than the animal or plant's form, like an animal track or burrow, that tells us an animal has been there.

1. What would happen to the trace fossils on the Hermit Trail if tourists walked on them?

2. What is the difference between a fossil of a plant or organism and a trace fossil of an animal?

3. What do the fossilized tracks tell you about the reptiles that once lived in the canyon? Support your answer with evidence from the passage above.

Meeting Individual Needs

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