

Fossils

By Sharon Fabian

Fossil hunters put on some old work clothes and gather up a few old-fashioned tools such as pry bars, chisels, hammers, and brushes. Then they head out to an abandoned stone quarry. Why? They're on the trail of trilobites.

Trilobites are ancient arthropods. Just like today's arthropods, ants and lobsters for example, they had jointed legs and bodies made of several parts called segments. There were many types of trilobites, but the average trilobite was only about one inch long. Trilobites lived in the seas that covered much of the earth about 300 million years ago, and the fossil hunters are hoping to find evidence, preserved in the rock, to show that they existed.



Another day, the fossil hunters, known as paleontologists, might go out to another area that used to be a lake or swamp. Maybe they will be looking for dinosaur bones on this day. Fossils are often found along the edge of what was once water. Maybe the thirsty dinosaurs liked to stop there for an afternoon drink. Another day the paleontologists might search for teeth from a shark that swam the ancient seas.

Not all fossils are actual pieces of ancient animals, such as bones or teeth. Some fossils are impressions, or prints, left behind by these animals. Many trilobite fossils are impressions. The trilobite itself would be long gone, but an impression showing the size, shape, and many features of the creature has been left behind.

When the paleontologists find a fossil, then the careful work begins. They must gently remove the fossil from its matrix, the rock that it is in. Sometimes chisels and brushes are not enough for the job. Then they have to use more precise tools, such as dentists' drills, or even air blasters, to safely remove the fossil from its matrix. Sometimes they cover the fossil with a layer of plaster to preserve it. Once they have the fossil safely removed, they wrap it for protection, number it, and record information about exactly where it was found. Finally it is ready.

Back at the lab or museum, scientists study the fossils to see what they can learn. Scientists sort fossils. They group fossils with similar characteristics. They look at differences between fossils. They identify fossils using the same system they use to identify living creatures. First they sort by kingdom - is it a plant or an animal? Then they continue through all the steps of the scientific classification system, right through genus and species. These last two, genus and species, give the fossil its scientific name, such as *tyrannosaurus rex*.

By studying fossils, scientists learn about many creatures that no longer live on earth. They also learn about how today's creatures have changed over the ages.

Sometimes scientists learn something else altogether from fossils. For example, plant and animal fossils of exactly the same type were found on continents far apart on the globe. This gave scientists a clue that the continents were not always separated as they are today. The theory that the continents were once all connected is backed up by fossil evidence.

Name _____



Date _____

However, fossils don't have to be millions of years old to give us interesting clues. The next time you find a seashell or the print of a leaf, imagine where it came from. Compare it to other shells or leaves. Try to classify it. Think like a paleontologist.

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Questions

- _____ 1. Scientists sometimes use a dentist's drill to dig out fossils.
 - A. False
 - B. True

- _____ 2. Trilobites lived about 300 years ago.
 - A. False
 - B. True

- _____ 3. This article is mainly about
 - A. fossils
 - B. dinosaurs
 - C. stone quarries
 - D. trilobites

- _____ 4. As used in this article, matrix means
 - A. a fossil
 - B. the stone around a fossil
 - C. a tool to dig out fossils
 - D. a type of dinosaur

- _____ 5. An arthropod is
 - A. a scientist who studies fossils
 - B. a place where fossils are found
 - C. a type of dinosaur
 - D. an animal with jointed legs and a segmented body

- _____ 6. A paleontologist is
 - A. a scientist who studies fossils
 - B. a type of dinosaur
 - C. a place where fossils are found
 - D. an animal with jointed legs and a segmented body

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_____ 7. A fossil is first classified as

- A. insect or dinosaur
- B. ant or lobster
- C. alive or dead
- D. plant or animal

_____ 8. By studying fossils, scientists have learned

- A. facts about ancient creatures
- B. new facts about living creatures
- C. facts about the earth
- D. all of these