

Chapter 30

Use with Section 1

ENRICHMENT

● Life and Geologic Time

The Earliest Primates

Read the following information. Then answer the questions.

Fossils have allowed scientists to trace the evolution of not just trilobites, but of many species of animals. From the fossils, scientists have learned a tremendous amount about what earlier forms of these animals looked like. One of the problems, though, in studying fossils is that often not all the fossil skeleton can be found. Therefore, scientists have to draw conclusions about the animal without being able to study the animal's entire structure. This particular problem led to some interesting "reconclusions" about primates in 1990.

Primates are a group of about 200 species of animals that include lemurs, monkeys, apes, and humans. They are grouped together on the basis of similar skeletal and other features. It's believed that they have a common ancestor and developed into separate species over millions of years.

For a long time, paleontologists thought that the oldest primates were the 60-million-year-old creatures they named plesiadapiforms. Plesiadapiform fossils included teeth, jaws, and parts of skulls. From the fossils, scientists concluded that plesiadapiform was a primate. Certainly, its teeth were like those of other primates. They were adapted for grinding, designed for a diet of insects, fruits, and seeds.

In 1990, new plesiadapiform bones were dug up in Wyoming. These included the first complete skull and some parts never found before, fingers and wrists. The paleontologists who studied the finger bones were surprised to find that they did not resemble those of primates. The only living animal with a similar arrangement of finger bones is a small tree-dwelling mammal of the Borneo and Philippine rain forests, called a colugo. The scientists who examined the intact skull identified it as resembling that of the colugo. The conclusion was the plesiadapiforms were not primates, since colugos are not primates.

Other scientists were studying an animal discovered at the foot of the High Atlas Mountains in Morocco. Called the *Altiatlasius*, the creature lived 60 million years ago. The paleontologists found ten tiny teeth similar to those in one of today's smallest primates, the 57-gram mouse lemur of Madagascar.

Another animal, less advanced but much larger than the *Altiatlasius*, has also been found. Many scientists are calling it an earlier primate. It's a house-cat-sized microsyopid and may have lived more than 60 million years ago. It's identified as an early primate from its bone structure.

1. If the microsyopid is proved to be a primate, what conclusion about primates might be changed?

2. Why do you think the *Altiatlasius* was so named? _____

3. What does the reading tell you about scientific inquiries? _____
