Chapter 9 The History of Life on Earth &
Chapter 8 Studying Earth's Past
Life Science

Name:
Period:
Date:

Use the textbook page 248

Using Radiometric Dating p.248

Figure 3 Half Dome in California's _____ National Park formed when a large _____ of _____ cooled very _____ below Earth's _____.

Scientists use different _____-dating techniques based on the _____ age of a _____. The half-_____ of" an _____ determines how the _____ can be used for _____. The _____ the rock is, the more _____ material there will be ____ the rock. Isotopes with _____ half-lives can be used to _____ old rocks but not _____ rocks. For _____ with _____ half-lives, _____ rocks do _____ contain enough _____ material to _____ accurate _____.

Methods of Radiometric Dating

One _____ used for _____ dating is _____-40. Potassium-40 has a _____-life of 1.3 _____ years. It decays to _____ and _____. Geologists measure _____ as the _____ material. This _____ can be used to _____ rock older than _____ years.

_____-238 is a radioactive _____ that decays to _____-206. The _____-life of uranium-238 is _____ billion years. Uranium-_____ dating can be used to date rocks _____ than 10 _____ years.

Half Dome, in _____ National Park, is shown in Figure 3. This _____ is composed of _____ rock. After the rock _____, it was _____ and _____ by _____. Uranium-lead dating shows that the rock in _____ Dome formed about ____ million years ago. So, geologists can use _____ dating to determine that the _____ and glacial _____ happened sometime in the last ____ million years.

p249 The Age of Our Solar System

Can radiometric _____ be used to find the _____ of Earth? Yes, but _____ by dating rocks from Earth. The _____ rocks that _____ on Earth have been _____ by plate _____ and _____. Therefore, there are ____ Earth rocks _____ that are as ____ as our planet. But other _____ in space contain _____ that is as ____ as our _____ system.

For example, the _____ and some _____ contain rock that formed as our _____ system, including _____, was forming . _____ are small, rocky _____ that have _____ through _____ and _____ to Earth's _____. Geologists have found _____ on Earth. Rocks from the _____ have also been _____, as shown in Figure 4. _____ dating has been _____ on these _____ from other _____ of our solar system. The _____ ages of these _____ show that our _____ system, including _____, is about _____ billion years _____.

Figure 4 Scientist-astronaut Harrison _____ collects samples of rock on the _____ with the lunar _____ during the _____ 17 mission.