



Hidden Treasures

Student Copy

Activity #2: THE ROCK CYCLE

The rock cycle is a model of how the Earth's geological processes create, modify, and destroy rocks.

Use the following terms to correctly label the rock cycle.

| | | |
|--------------|------------------|--------------------------|
| Cooling | Sediments | Compaction & Cementation |
| Igneous Rock | Heat & Pressure | Metamorphic Rock |
| Melting | Sedimentary Rock | Weathering & Erosion |

1. Magma
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Summary:

Using the rock cycle handout and your answers from above as guides, summarize the processes of the rock cycle. **Start with the formation of magma** and work your way through the cycle.

Activity #3: VOLCANIC FOSSILS

The environment where a fossil is found can sometimes tell us how that fossil was formed. For example, fossils found within the structural rocks of caves have been preserved within the cave-forming rock. Fossilized insects found in amber were once stuck in the sap of trees, and when the sap turned into amber the insect was trapped inside. Volcanic activity can also produce the necessary conditions for the formation of fossils.

In this activity we will use the explosive history of the **Florissant Fossil Beds National Monument** as an example of how volcanoes can create and conserve fossils. Read through the provided information cards and put them in the correct geological order. Once you have them in order, fill in the titles of the cards in the boxes on the left and summarize the cards on the right.

| CARD TITLE | SUMMARY OF EVENTS |
|------------|-------------------|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| 6. | |
| 7. | |
| 8. | |
| 9. | |

Activity #4: PACKRATS

Cave animals are categorized based on the amount of time they spend in caves. There are three categories of cave animals: **trogloxenes** (cave visitors), **troglophiles** (animals that spend considerable amounts of time in caves, but are not dependent on them), and **troglobites** (animals that are found exclusively in caves). Packrats, also known as woodrats and trade rats, are troglloxenes and their visits to caves have huge impacts on the paleontological resources.

This activity will introduce you to these furry cave guests and help you understand their affects on cave fossils. Read the information on the Packrats handout and then answer the questions below:

1.) What terms describe the following types of cave dwellers?

- Animals that are found exclusively in caves: _____
- Animals that periodically visit caves: _____
- Animals that love caves: _____

2.) What are packrat nests called?

3.) Name 4 objects that could possibly be found in a packrat nest:

-
-
-
-

4.) True or False: Packrats only use their nest once and build a new one year after year.

5.) True or False: Packrats urinate on their nests.

6.) What is amberat?

7.) What is a technique that researchers have used to find out how old a packrat nest is?



NPS sketch: Craters of the Moon National Monument and Preserve