



CAVE OF THE MOUNDS®

National Natural Landmark

Educational Programs

RocksROCK

Rock Mini-Course

Grade K-2

Objectives:

At the end of this program, the student should be able to:

- Identify rock related vocabulary
- Name at least one rock type
- Acknowledge that a rock & a mineral are two different things
- Recognize that rocks can form in different ways

Wisconsin DPI Standards:

Science:

A.4.1, A.4.2, A.4.4, A.4.5, B.4.1, C.4.2, D.4.1, D.4.2, D.4.3, D.4.4, E.4.1, E.4.2, E.4.3, E.4.6, E.4.7, E.4.8

Social Studies:

D.4.3, D.4.12

Activities:

Times are approximate and specific reinforcement activities will vary based on the needs of each individual group.

- 30 minutes The interactive audio visual presentation provides the definition of a rock, a mineral & a gem, rock types & how each forms, and how scientists identify rocks, gems & minerals.
- 30 minutes Sluicing give participants a hands-on experience to uncover their own collection like a true geologist. Guided identification shows examples of both local/non-local rocks & minerals.
- 60 minutes The Cave Tour fosters a connection between previously discussed rock mineral and gem concepts with the experience of observing large scale rocks & minerals inside the cave.

Pre-teach Vocabulary:

A glossary of terms is provided for your convenience.

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|---------|-------------|-------------|
| Mineral | Geologist | Igneous |
| Rock | Limestone | Metamorphic |
| Geology | Sedimentary | |

Learning Extension:

Try this activity after your visit to reinforce important concepts.

Activity:

1. Have students observe various rock and mineral samples using hand lenses. Explain that minerals are the materials that make up rocks and rocks are made of at least 2 minerals but usually are made up of many.

2. Explain that a rock is like a cookie & all the ingredients are the minerals. Show a variety of ingredients. Explain that some “minerals” (ingredients) hold the “rock” (cookie) together (flour, butter, sugar) and others just happened to be in the “environment” (your kitchen) when the “rock” formed (nuts, chips, dried fruit).

3. Distribute to each student a rock cookie, paper plate, toothpick and worksheet. Talk about tools of geology while doing this.

4. Have students “pick” the “minerals” out of the rock cookie and sort them on their worksheet.

5. Ask the students to count each type of mineral they have sorted. Then, have them try to identify each type of “mineral” on their worksheet.

6. Optional: Put the data collected from the activity onto a simple poster graph and post in the classroom.

7. Students can eat their “minerals” as well as the “rock” crumbs left behind.

You will need:

- Rock Cookie recipe and ingredients
- Rock & Mineral samples & hand lenses
- Paper plate, worksheet, & toothpick (for each student)
- Rock Cookies (1 for each student)

Glossary of Terms

Mineral - The materials that make up rocks (naturally occurring solid element or compound with an internal crystal structure).

Rock - A solid, cohesive aggregate of one or more minerals or mineral materials.

Geology – Scientific study of the earth and earth materials.

Geologist - A scientist who studies the earth and the materials that form it.

Limestone - A carbonate-rich sedimentary rock which usually forms from layers of the remains of marine life and other marine sediments.

Sedimentary – A type of rock formed from the accumulation of sediment, which may consist of fragments and mineral grains of varying sizes from pre-existing rocks, remains or products of animals and plants, or the products of chemical action.

Igneous – A type of rock formed from molten or partially molten material cooling and hardening either above or below the surface of the earth.

Metamorphic – A type of rock changed from its original form (sedimentary or igneous) and/or composition by heat, pressure, or chemically active fluids, or some combination of them.
