



CAVE OF THE MOUNDS®

National Natural Landmark

Educational Programs

RocksROCK

Rock Mini-Course

Grade 3-4

Objectives:

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

- Define rock related vocabulary
- Name the 3 main rock types
- Understand how a rock & a mineral are different
- Tell about rock and mineral hand specimens
- Describe in general a connection between different rock types

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 definitions of a rock, mineral & gem, rock types & how each forms, and how scientists identify rocks, gems & minerals.
- 30 minutes Sluicing gives participants a hands-on experience to discover 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.

Mineral	Igneous	Rock Cycle
Rock	Metamorphic	
Geology	Sedimentary	
Geologist	Gemstone	

Learning Extension:

Try this after your visit to reinforce important concepts.

You will need:

- Red, blue, and brown rock shapes from construction paper so each child will have ONE rock.

Activity:

1. Distribute construction paper rocks randomly to students, one rock per child.
2. Explain that the red rocks are igneous, the blue ones sedimentary, and the brown ones metamorphic.
3. Review the rock cycle with the students reminding how each type of rock changes through the rock cycle.
4. Choose three people to bring their rocks to the front of the learning space.
5. Say "Heads down, rocks out!" All students who are seated will put their rocks in front of them, close their eyes, and put heads down.
6. The three people walk around, exchange their rocks with three who are seated and return to the front.
7. Call out "Heads up, rock check!" The three seated students who now have different rocks stand up.
8. If each one can describe the change and why it may have happened, they may take the place of the student in front who exchanged their rock. If not, they sits back down.
9. Keep going until everyone has had a turn being a part of the rock cycle.

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.

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.

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.

Gemstone – A mineral that is valued for its beauty, durability, and rarity.

Rock Cycle – System where rock at or near Earth's surface is being continuously cycled through the processes of metamorphism, melting, cooling, crystallization, sedimentation and weathering.
