

COMMON CORE Lessons & Activities

ROCKS & MINERALS

Reading for Information

Higher-Order Thinking

Writing Prompts

Current Events Analysis

Vocabulary

Cause & Effect

Graphic Organizers

& More!

REPRODUCIBLE

One teacher is allowed to make copies for use in her/his classroom!



Common Core Lessons & Activities: Rocks and Minerals

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G: Includes Graphic Organizer

GO: Graphic Organizer is also available 8½" x 11" online
download at www.gallopade.com/client/go

(numbers above correspond to the graphic organizer numbers online)

APPLYING CONCEPTS

Testing Mineral Hardness

Read the texts and answer the questions.

Hardness is one of the properties that can be used to describe and identify minerals. The hardness of a mineral is its ability to resist scratching.

Friedrich Mohs was a German scientist who studied minerals. More than 100 years ago, he developed a hardness scale. The Mohs Scale of Hardness is used to describe the hardness of minerals using numbers. Any mineral's hardness can be determined by attempting to scratch it with the index minerals listed in the scale.

Talc is the softest mineral. It has a hardness of 1 on the scale. Diamond is the hardest mineral, and it has a hardness of 10.

1. What is the purpose of the Mohs Scale of Hardness?
2. If quartz scratches gypsum, what can you infer about quartz and what can you infer about gypsum?
3. Identify the hardness for the 10 index minerals in the Mohs Scale of Hardness. Write each mineral on the chart beside its corresponding hardness number. First use the text above to add talc and diamond to the chart. Then use the information in the "What Scratches What" box to correctly add the other 8 minerals to the chart.

What Scratches What?

- Everything scratches calcite, except gypsum and talc.
- Fluorite scratches gypsum and calcite but not apatite.
- Corundum scratches everything except diamonds.
- Feldspar scratches apatite, and quartz scratches feldspar.
- * Topaz scratches quartz but not corundum.

Mohs Scale of Hardness

Hardness	Index Mineral
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Useful Minerals

A blank concept map template. At the center is a circle containing the text "Useful Minerals". Six lines radiate from this central circle to the edges of the page, creating six sectors for branching ideas. A large, bold, black word "SAMPLE" is written diagonally across the entire page, from the bottom-left towards the top-right, serving as a watermark.

Three Types of Rocks

Read the text and answer the questions.

There are billions upon billions of rocks on the Earth! Yet, each rock falls into one of three groups: igneous, sedimentary, and metamorphic. Which group a rock belongs to depends on how the rock was formed.

Igneous rocks form when molten lava (magma) erupts from a volcano, cools, and turns to solid rock. Igneous rocks form with lots of fire and heat.

Sedimentary rocks form when layers of sand, clay, and bits of rock are pressed together over a long period of time. Sedimentary rocks are often pressed flat with visible layers. Often, these layers contain fossils.

Metamorphic rocks form when igneous or sedimentary rocks are changed by extreme heat and pressure due to the movement of the Earth's crust. Metamorphic rocks form deep within the Earth.

1. A. How do igneous rocks form?
B. How do sedimentary rocks form?
C. How do metamorphic rocks form?
2. Where do you think you would most likely see each of these types of rocks? Use logical reasoning to support your answer.
3. What characteristics make sedimentary rock easy to identify?
4. What is the effect of heat and pressure upon sedimentary rock?
5. A. Choose a type of rock. Next, write a story about your rock from the rock's point of view. Do not mention the name of your rock. Include facts about how it formed, where it formed, and how long it took to form. Your story could also include facts about what minerals it is made of, what it looks like, and what its future might be!
B. Proofread, edit, and revise your work.
C. Read your story to your class. Could your audience accurately identify your type of rock?

GRAPHIC ORGANIZER

Three Types of Rocks

Complete the graphic organizer by comparing and contrasting igneous, sedimentary, and metamorphic rock.

