

CH. 3 ROCK STUDY GUIDE

Vocabulary

rock, p. 66; igneous rock, p. 66; sedimentary rock, p. 66; metamorphic rock, p. 66; rock cycle, p. 67; weathering, p. 68; sediments, p. 68; intrusive igneous rock, p. 71; extrusive igneous rock; erosion, p. 76; deposition, p. 76; compaction, p. 76; cementation ; foliated metamorphic rock, p. 83; nonfoliated metamorphic rock, p. 83

Reviewing Concepts

Choose the letter that best answers the question or completes the statement.

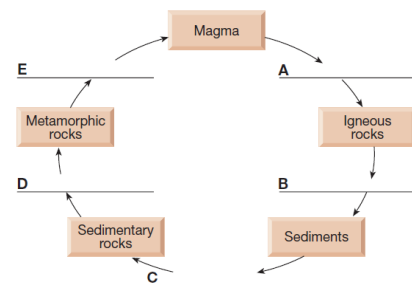
- Which of the following forms as the result of surface processes?
 - a.** Sedimentary shale
 - Igneous basalt
 - Magma
 - Intrusive granite
- Which of the following would NOT be a major process in the formation of sedimentary rocks?
 - Erosion
 - b.** Melting
 - Deposition
 - Compaction
- A fine-grained igneous rock forms
 - deep within Earth.
 - from magma.
 - as the result of slow cooling.
 - d.** as the result of quick cooling.
- Cementation often occurs after Earth materials are
 - eroded.
 - weathered.
 - intruded.
 - d.** deposited.
- Metamorphic rocks that have a banded appearance due to the alignment of minerals are called
 - a.** foliated.
 - nonfoliated.
 - clastic.
 - glassy.

Understanding Concepts

- Which igneous rock forms when basaltic lava hardens? When basaltic magma hardens?
Lava will crystallize into extrusive igneous (ex. basalt). Magma will crystallize into intrusive igneous (ex. Gabbro)
- How are granite and rhyolite the same, and how do they differ?
Same = solid, made of minerals, naturally occurring, and igneous. Different = granite is coarse-grained, and rhyolite is fine-grained.
- Explain weathering.
Changes in composition and breaking the rock down into smaller pieces.
- How could you easily distinguish a black and white gneiss from a similar-colored granite?
Gneiss is foliated (has layers) and granite has random colors of crystals.

Use the diagram to answer questions 5 - 8

- What process occurs at point A? **Cooling**
- What three processes can occur at point B? **Weathering, Erosion, Deposition**
- Name two processes that occur at point C. **Compaction & Cementation**
- What two processes occur at points D and E? **heat & pressure**



Use the photograph to answer questions 9 - 12

- 9. Observing** Describe the texture of the rock. **Coarse-grain**
- 10. Identifying** To which of the three major groups of rocks does the rock belong? **Sedimentary**
- 11. Formulating Hypotheses** Briefly describe how this rock formed.
Weathered & erosion, deposited and then compaction & cementation
- 12. Applying Concepts** Explain how this rock might become an igneous rock.
If it melted and then cooled down and crystallized.



Use the photograph to answer the question 13

- Use what you have learned about rocks to describe the color and texture of the rock below. What type of rock is this? How did it form?
Igneous rock, magma cooled and solidified slowly deep underground (Intrusive).



CH 2: MINERALS STUDY GUIDE

Vocabulary

streak, p. 51; luster, p. 51; crystal form, p. 51; hardness, p. 52; Mohs scale, p. 52; cleavage, p. 52; fracture, p. 53; density, p. 53

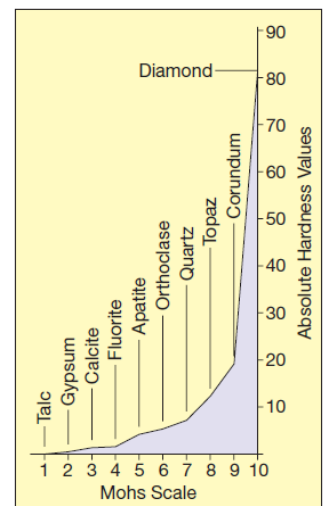
Reviewing Concepts

Choose the letter that best answers the question or completes the statement.

- Color is often not a useful identification property because
 - some minerals are colorless.
 - the same mineral can be different colors.
 - different minerals can be different colors.
 - some minerals are single elements.
- What is a mineral's streak?
 - the resistance to being scratched
 - the color of the mineral in powder form
 - the way in which the mineral reflects light
 - the way the mineral reacts to hydrochloric acid
- A particular mineral breaks like a piece of glass does. Which of these describes the breakage?
 - Cleavage
 - Hardness
 - metallic luster
 - fracture
- Minerals that form from magma form as the result of
 - crystallization.
 - evaporation.
 - precipitation.
 - condensation.

Understanding Concepts

- Your friend shows you a crystal that he thinks is a diamond. Without asking an expert, how could you tell if the crystal is really a diamond?
It will scratch corundum, or no other mineral will scratch it other than itself.
 - Use the chart to answer the questions below
 - What does this graph show? *Absolute hardness of the minerals compared to their Mohs scale number*
 - How does talc's hardness on the Mohs scale compare with its absolute hardness? *Both about 1.*
 - Describe the relationship between Mohs hardness and absolute hardness. *As the Mohs scale number of hardness increases so does the absolute hardness value*
9. Define a mineral. *A mineral is naturally occurring, inorganic solid with an orderly crystal structure and definite chemical composition.*



We use different tests to identify a mineral. Match each test with its name.

- | | |
|------------------------------------|--|
| 10. <u>C</u> Moh's Scale | A.Relative heaviness of a mineral |
| 11. <u>D</u> Crystalline Structure | B.Color it leaves when scratched on porcelain |
| 12. <u>A</u> Specific Gravity | C.How easily it scratches other materials or it's hardness |
| 13. <u>B</u> Streak | D. Shape as it grows |
| 14. <u>F</u> Luster | E. Breaks along a plane/line |
| 15. <u>G</u> Fracture | F. Appearance |
| 16. <u>E</u> Cleavage | G. Breaks unevenly or shatters |