

Earth Systems and History Study Guide

Target 1: Apply evidence to support how minerals are classified based on the variety of unique characteristics they demonstrate.

Mineral	Hardness
Talc	1
Gypsum	2
Calcite	3
Fluorite	4
Apatite	5
Feldspar	6
Quartz	7
Topaz	8
Corundum	9
Diamond	10

1. Which mineral is the hardest?

Diamond

2. Which mineral is the softest?

Talc

3. Which mineral has a hardness of 7?

Quartz

Use the passage below to answer descriptive questions 4-9.

The Physical Properties of Minerals ✖ color

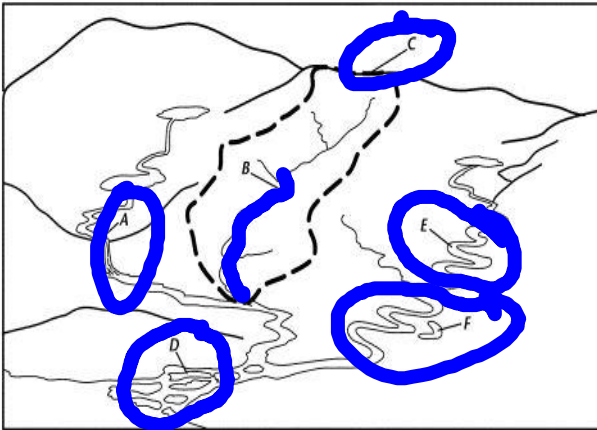
Minerals are identified by analyzing their physical properties. Let's learn about these properties and discover what they mean and how to determine them. Cleavage and fracture are descriptions of how a mineral breaks into pieces. Cleavage describes how a mineral breaks into flat surfaces (usually one, two, three or four surfaces). Fracture describes how a mineral breaks into forms or shapes other than flat surfaces. The hardness of a mineral is a way of describing how easy or difficult it is to scratch the mineral. It is used, in combination with the other physical properties, to help identify a mineral specimen. Luster is a description of the way a mineral surface looks when light reflects off of the surface. Specific Gravity is a measure of the density of a mineral compared to the density of an equal volume of water. Streak is the color of a mineral when it is crushed to a powder.

#	Description	Term
4.	When this mineral is scratched against a ceramic tile, the color of the line is different than the color of the mineral.	<u>Streak</u>
5.	This mineral is the softest, because it is easily scratched.	<u>hardness</u>
6.	The mineral is the hardest and cannot be scratched by a fingernail or a steel nail.	<u>hardness</u>
7.	The mineral is shiny like a metal	<u>luster</u>
8.	This mineral is easily identified because it is green.	<u>color</u>
9.	This mineral does not reflect light and is dull	<u>luster</u>

Earth Systems and History Study Guide

Target 2: Construct explanations for the role of the water cycle as a system in the weathering of rocks on Earth.

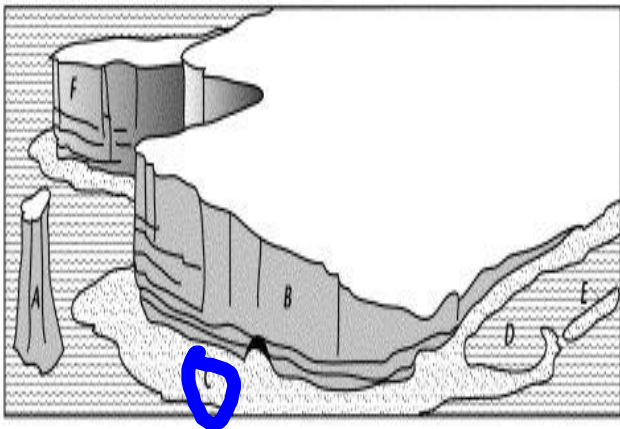
Rivers and Streams



10. Use the image to the left to identify figures A-F

- A. Waterfall
- B. Stream
- C. Drainage basin
- D. Delta
- E. Meander
- F. Oxbow lake

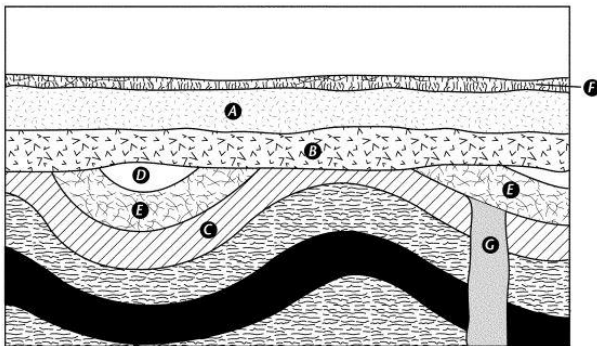
Coastal Landforms



11. Use the image to the left to identify figures A-F

- A. Sea stack
- B. Wave-cut cliff
- C. Beach
- D. Spit
- E. Barrier beach
- F. Headland

Rock Layers



12. Which rock layer is the oldest?

C

13. Which rock layer is the youngest?

F

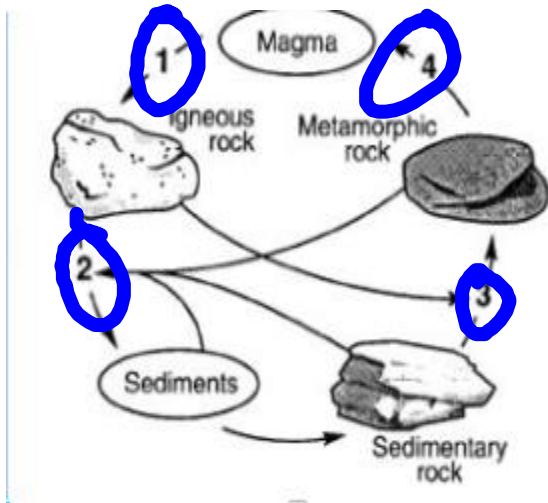
Earth Systems and History Study Guide

The table shows how four different rocks were formed and gives their composition.

Rock	Formation	Composition
1	Sand particles cemented together	Silica and sand particles
2	Formed with intense heat and pressure	Silica and other minerals
3	Cooled quickly from lava at the surface	Iron and magnesium feldspar
4	Cooled slowly from the magma deep in earth's interior	Quartz and other silica minerals

14. Based on this data, which rock sample would best represent the intrusive igneous rock, granite? # 4

15. Which rock would best represent the clastic sedimentary rock sand stone? # 1



16. What process occurs at position 1?

Crystallization

17. What process occurs at position 2?

Weathering : erosion

18. What process occurs at position 3?

heat : pressure

19. What process occurs at position 4?

melting