Lesson (1)

Essential Question

What Are Characteristics of Packet

Engage Your Brain!

Find the answer to the following question in this lesson and record it here.

Rocks come in many colors. What causes the different colors of rocks?

Active Reading

Lesson Vocabulary

List the term. As you learn about the term, make notes in the Interactive Glossary.

Signal Words: Details

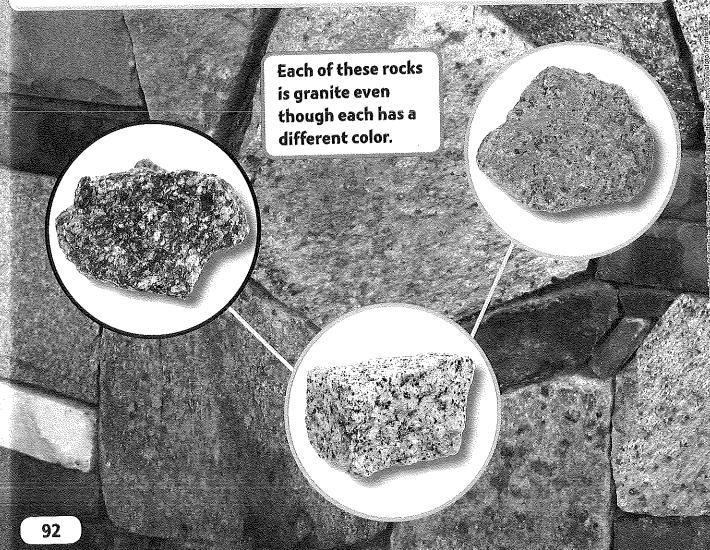
Signal words show connections between ideas. For example signals examples of an idea. Also signals added facts. Active readers remember what they read because they are alert to signal words that identify examples and facts about a topic.

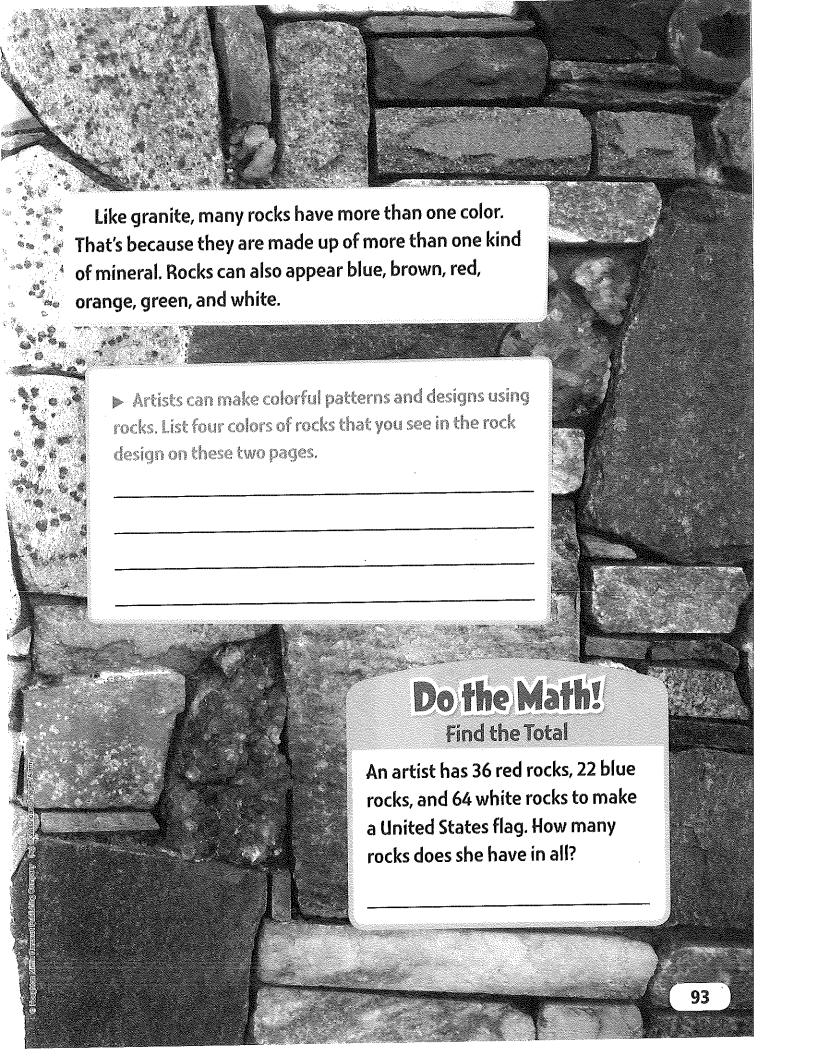
What Is Your Favorite Colors

Have you ever picked up a rock because of its color?

Active Reading As you read these two pages, circle signal words that identify examples and added facts.

One of the first things you might notice about a rock is its color. The colors of rocks are caused by the different minerals that make them up. A **mineral** [MIN=er=uhl] is any nonliving solid that has a crystal form. For example, granite can appear grey, black, or pink depending on the amounts of different minerals in the rock.





Telling Texture

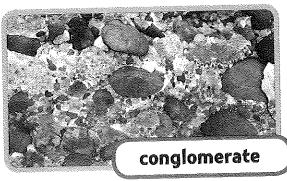
Have you ever used sandpaper? Like rocks, different textures of sandpaper have different-sized grains.

Active Reading As you read, underline the sentence that tells what makes up the texture of a rock.

The surface of sandpaper is covered with small, rough grains. Some sandpaper has grains that are big and have sharp edges. Other sandpaper has grains that are small and smoother. A rock's texture depends on the shape and size of the small grains that make up the rock.

coarse-grained

Rocks that have large grains or crystals are coarse-grained. Most of the rock is made up of rice-sized grains or larger.



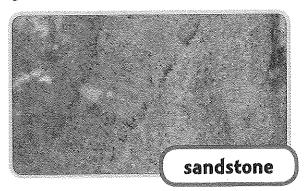


You can clearly see the pebbles and crystals in these coarse-grained rocks.



medium-grained

You can still see the grains in medium-grained rocks. But the grains are smaller than in coarsegrained rocks.



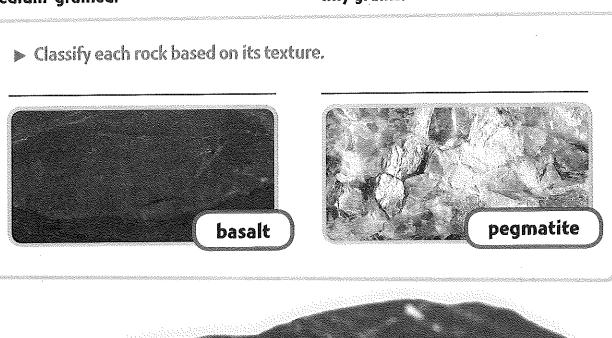
This piece of sandstone is medium-grained.

fine-grained

If the grains are so small that you need a hand lens to see them, the rock is fine-grained.



Fine-grained rocks have tiny grains.



Oolis Shiny

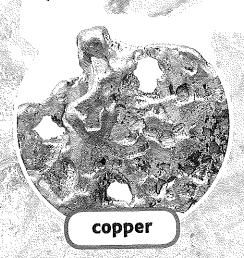
Imagine hiking along a riverbed. You see a bright flash among the rocks. When you look closer, you see a shiny rock among the many dull ones on the river's bottom. What makes it shiny?

Active Reading On this page, underline two words that describe luster.

Another property used to classify rocks is luster. *Luster* describes how a material reflects light. Luster can be described using words such as *metallic* and *nonmetallic*.

metallic luster

The shiny rock in the riverbed might be a gold nugget! Copper, gold, and silver each have a metallic luster. Rocks that have a metallic luster have the look of polished metal. A rock with a metallic luster looks shiny because light reflects well off its surface.

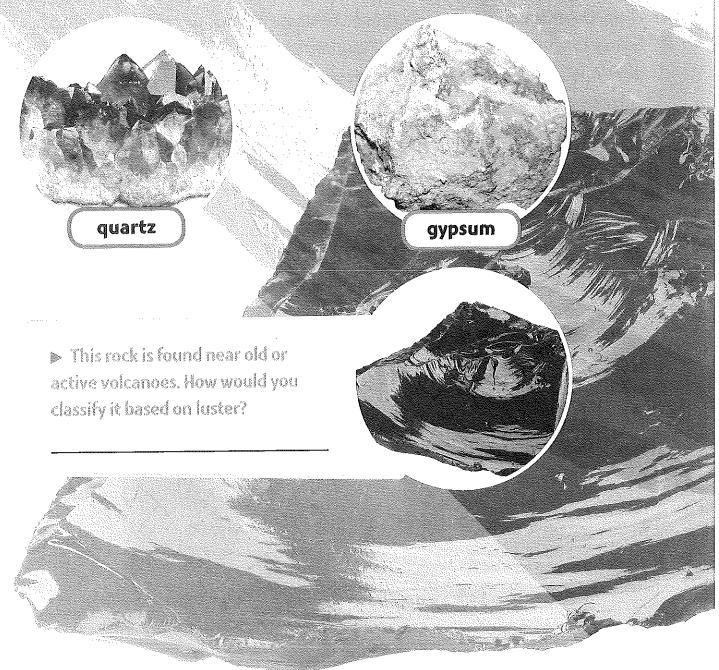




nonmetallic luster

© Houghton Mifflin Harcourt Publishing Company (tl) ©zelenka68/Fotolia: (tr) මයින්වෙන් යන්ට පින්වේන් යන්න (br)(bg) ගිmates Fotolia

A rock that does not look like polished metal at all has a nonmetallic luster. Many rocks have nonmetallic luster. To classify rocks better, scientists describe different kinds of nonmetallic luster. For example some rocks, such as quartz, reflect light like glass. They have a glassy luster. Other rocks, like gypsum [JIP*suhm], do not reflect light well and look very plain. These rocks have a dull luster.



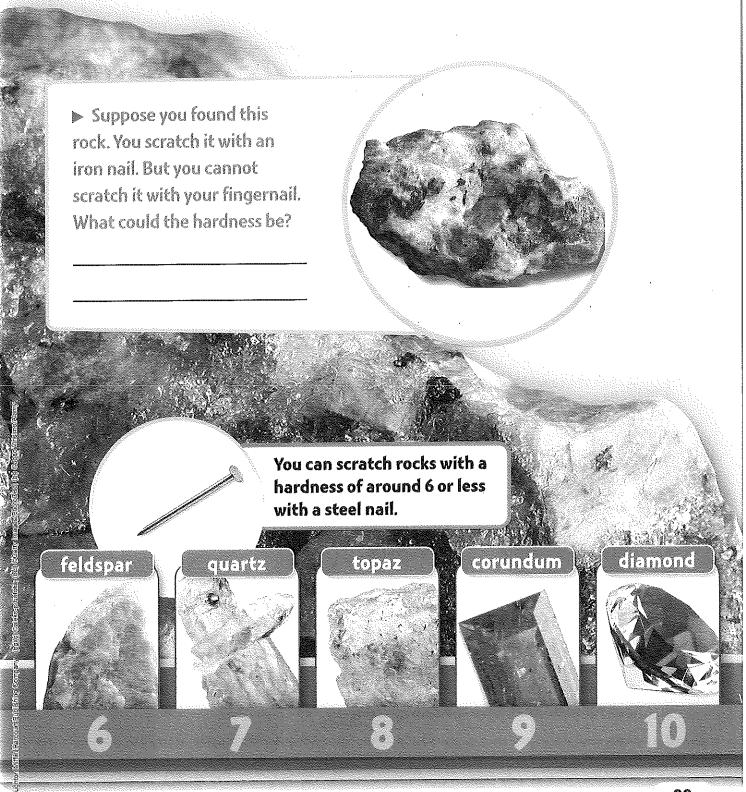
How Hard Is It?

A dry, stale roll might be "as hard as a rock." But how hard IS a rock?

Active Reading On this page, circle the photos of rocks that you can scratch with your fingernail.

Hardness is one characteristic used to classify rocks. You test hardness by trying to scratch the rock. In 1812, a scientist named Friedrich Mohs [mohz] developed a scale to compare hardnesses. If you can scratch a rock with your fingernail, the rock has The Mohs a hardness of 1 or 2. Seale apatite fluorite calcite gypsum

On the Mohs scale, a mineral with a higher number can scratch rocks with a lower or equal number. The softest rocks score a 1. Every other mineral can scratch rocks with a hardness of 1. The hardest mineral—a diamond—scores a 10 on the Mohs scale. A diamond can't be scratched by any mineral except another diamond.

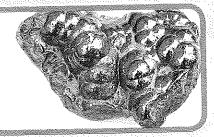


When you're done, use the answer key to check and revise your work.

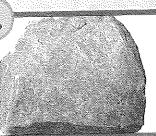
Change the circled part of each statement to make it correct.

1

Rocks that shine like metals have a metallic texture.



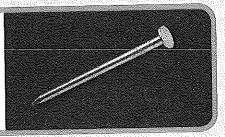
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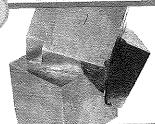
Rocks that are made up of very small grains are coarse-grained.

3

A rock that can be scratched by a steel nail has a hardness of around 4 or greater



4



A rock is any nonliving solid that has a crystal form.

5

An artist that wants to make a necklace and matching earrings of polished rocks would likely look for rocks that have the same hardness







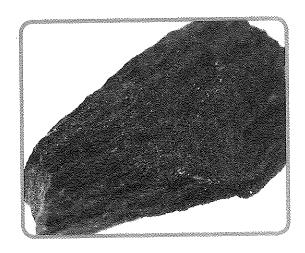
Name _____

Word Play

Unscramble the letters to complete each clue.	
1. How a rock reflects light is a characteristic called	stelur
2. You might use a hand lens to help classify rocks by their	truexet
3. You can test a rock's using your fingernail and a steel nail.	redshans
4. A rock that is made up of large crystals has agrained texture.	sorcea
5. A rock that is very shiny is classified as having a luster.	leltimac

Apply Concepts

2 Identify the color, texture, and luster of the rocks shown.





Color: _____

Texture: _____

Luster:

Color: _____

Texture:

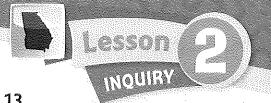
Luster:

3 Describe how you test a rock for hardness.

Take It

Collect rocks from your neighborhood or park. Make a label for each that describes its characteristics. Show them to a friend or family member.





Inquiry Flipchart p. 13

(A).	*.		
	COE4 a	Classification	of rook
	JJEI.a	Classification	OF TOCKS

Name		

Essential Question

Low Can We

Classify Rocks?		
Set a Purpose What will you learn from this experiment?	Record Your Results In the space below, make a table to record your observations of the rock samples.	
Think About the Procedure 1. Do you expect each group to classify the rocks in the same way? State your prediction.		
2. What tools are available and why?		

Draw Conclusions Classify your rocks and explain the basis of your classification.	2. How would working with all the minerals on the Mohs scale affect your results?
Analyze and Extend 1. Describe a different way to classify your rocks.	3. What other questions do you have about classifying rocks?

ROCK scavenger Hunt



Directions – Find rocks that match the descriptions listed below. Put a check by the rocks you find.

a smooth	
rock	
a rock with	
2 colors	
a rock with	
3 colors	
a shiny	
rock	
a bumpy	
rock	·
a beautiful	
rock	

How are the rocks different from each other?