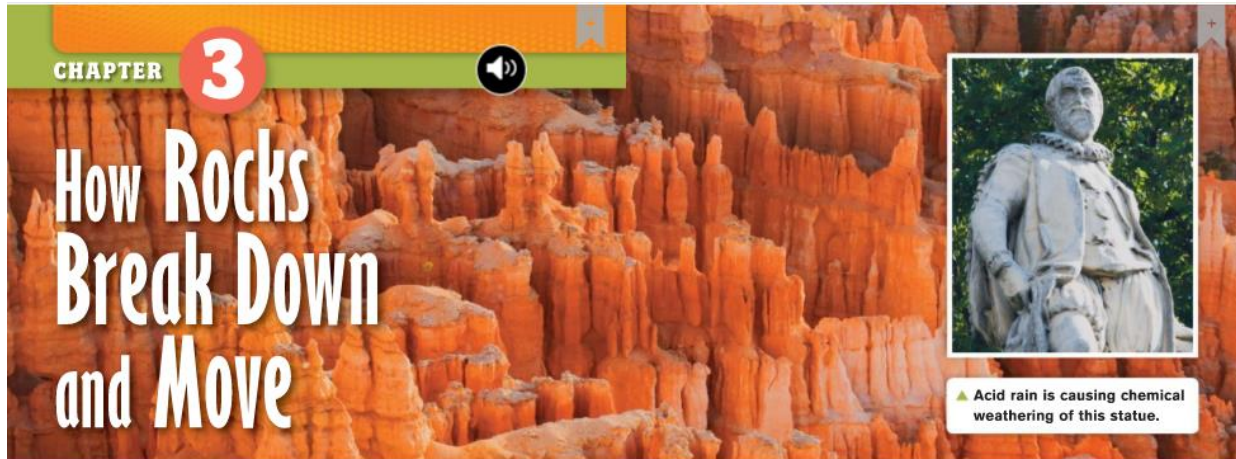


Thursday, April 16, 2020

Hello everyone! Read the and complete Chapter 3 of Rocks and Minerals.



You cannot see how rocks are changing deep within Earth. But you can see some of the changes that happen on Earth's surface.

Rocks are constantly being broken down through the process of weathering. But there are different ways weathering can occur.

Mechanical weathering changes the size or shape of a rock. For example, when a rock is worn away by the force of water, mechanical weathering is taking place.

mechanical weathering – the breaking down of a rock into smaller pieces without changing its composition

16 *Earth's Changing Surface: Rocks and Minerals*

▲ Different types of weathering change the rocks in Bryce Canyon, Utah.

Chemical weathering changes the chemical composition of a rock. Water is usually involved in chemical weathering. For example, when air becomes polluted, chemicals can mix with water in the air. Acid rain can form. When acid rain falls on a marble statue, the acid rain can dissolve or change certain minerals in the marble. Over time, the statue looks different because of the chemical weathering.

Chemical and mechanical weathering often happen at the same time. The rocks you see in Bryce Canyon were formed from both types of weathering.

chemical weathering – the breaking down of a rock because of changes in its composition

Chapter 3: How Rocks Break Down and Move 17

Natural Forces

Natural forces cause weathering and erosion on Earth's surface. Wind, water, gravity, and glaciers can break down or move even large rocks. It is all part of the never-ending rock cycle that is always changing the surface of Earth.



▲ Wind carries particles.



▲ Water can change shorelines.



▲ Glaciers affect the land under them.



▲ Gravity can move rocks.

KEY IDEAS Weathering and erosion change Earth's surface. These changes are caused by natural forces such as wind, water, gravity, and glaciers.

YOUR TURN

INTERPRET DATA

The bar graph below shows how the beach in front of one hotel has changed over the years. Use the graph to answer the questions below.

- In what year was there the most amount of beach?
- In what year was there the least amount of beach?
- How much less beach was there in 2007 than in 1977?



1977
1987
1997
2007

MAKE CONNECTIONS

Tell how the erosion of sand can change a beach.

EXPAND VOCABULARY

You have read about the rock cycle. The word **cycle** comes from the Greek word *kyklos*, which means "wheel" or "circle." Look at these words. Find out what each word means, and tell how they relate to circles.

bicycle recycle cyclical

Earth's Changing Surface: Rocks and Minerals
Chapter 3: How Rocks Break Down and Move

ORANGE LEVEL
Student Book,
pages 16-18

USE KEY WORDS

Look at the Key Words on page 23 of your book.
Answer these questions about the Key Words in Chapter 3.
Write **mechanical weathering** or **chemical weathering** for each description.

KEY WORDS
chemical weathering
mechanical weathering

1. Ocean waves break rocks into pieces. _____
2. Acid rain helps wear away a statue. _____
3. Rock breaks down without changing its composition. _____
4. Rock breaks down because of changes in its chemical structure. _____

ORGANIZE IDEAS

As you read Chapter 3, complete the chart by describing how four natural forces change the surface of Earth.

NATURAL FORCES THAT CAUSE WEATHERING AND EROSION			
Water	Wind	Gravity	Glaciers

STRATEGY FOCUS: SYNTHESIZE

Reread the ideas on page 18 and look at the photos. Think about what you already know about these forces and how they change the land. Then make one statement that includes most of the information.