

Lesson 8: Three Types of Rocks and the Rock Cycle



Vocabulary for “Earth’s Building Blocks”

1. **mineral, *n.*** a solid, nonliving substance found in the earth that makes up rocks (**minerals**) (53)
2. **texture, *n.*** the size, shape, and sorting of the mineral grains in rocks (53)
3. **solidify, *v.*** to make or become hard or solid (**solidifies**) (54)
4. **obsidian, *n.*** a dark rock or natural glass formed from lava that cooled very quickly (54)
5. **granite, *n.*** a common igneous rock that forms from magma that cooled within Earth’s crust (54)
6. **durable, *adj.*** able to last a long time in good condition (55)
7. **compact, *v.*** to closely pack or press together (**compacts, compacting**) (56)
8. **dissolved, *adj.*** mixed with liquid so no solid pieces are visible anymore (56)

Word(s) from the Chapter	Pronunciation	Page
gneiss	/nis/	58
Agnes Nyanhongo	/ag*nes/ /nie*an*hong*goe/	59
Zimbabwe	/zim*bob*wae/	59

Before we begin reading Chapter 6: Earth’s Building Blocks, let’s go over some vocabulary. Turn to Activity Page 8.1 (workbook page 77)



Chapter 6

Earth's Building Blocks

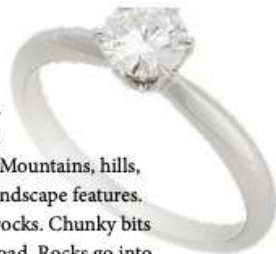
THE BIG QUESTION

How can changes in rocks over time be explained by the rock cycle?

You don't have to look hard to find rocks. They are all around you—and under you, too! Earth's crust is made almost entirely of rocks. Mountains, hills, and cliffs are huge masses of rock that form landscape features. Pebbles in a streambed are smooth, rounded rocks. Chunky bits of broken rock form the gravel on a country road. Rocks go into making sidewalks and streets. Slabs of rock cover the outside of many buildings. Indoors, pieces of rock often make up floors, walls, stairs, and countertops. Museums are good places to see rocks that artists have carved into sculptures. The polished stones in some types of jewelry are rocks that people wear.



Rocks are all around. Some are carved into sculptures, others are used for jewelry.



Today, you will be reading Chapter 6 (page 52) and completing the questions on Activity Page 8.2 (workbook page 79)



NAME: _____

DATE: _____

8.2

ACTIVITY PAGE

Earth's Building Blocks

Answer each question thoughtfully, citing the page number(s) where you found evidence for each question. Answer in complete sentences and restate the question in your answer whenever possible.

1. How might rocks differ from each other?

Page(s) _____

2. How does igneous rock form?

Page(s) _____

Core Knowledge Language Arts | Grade 4



COOPERATIVE LEARNING



We are going to work in cooperative groups today. Some of you will be working in partners or small groups, and others will be working in a small group with a teacher.

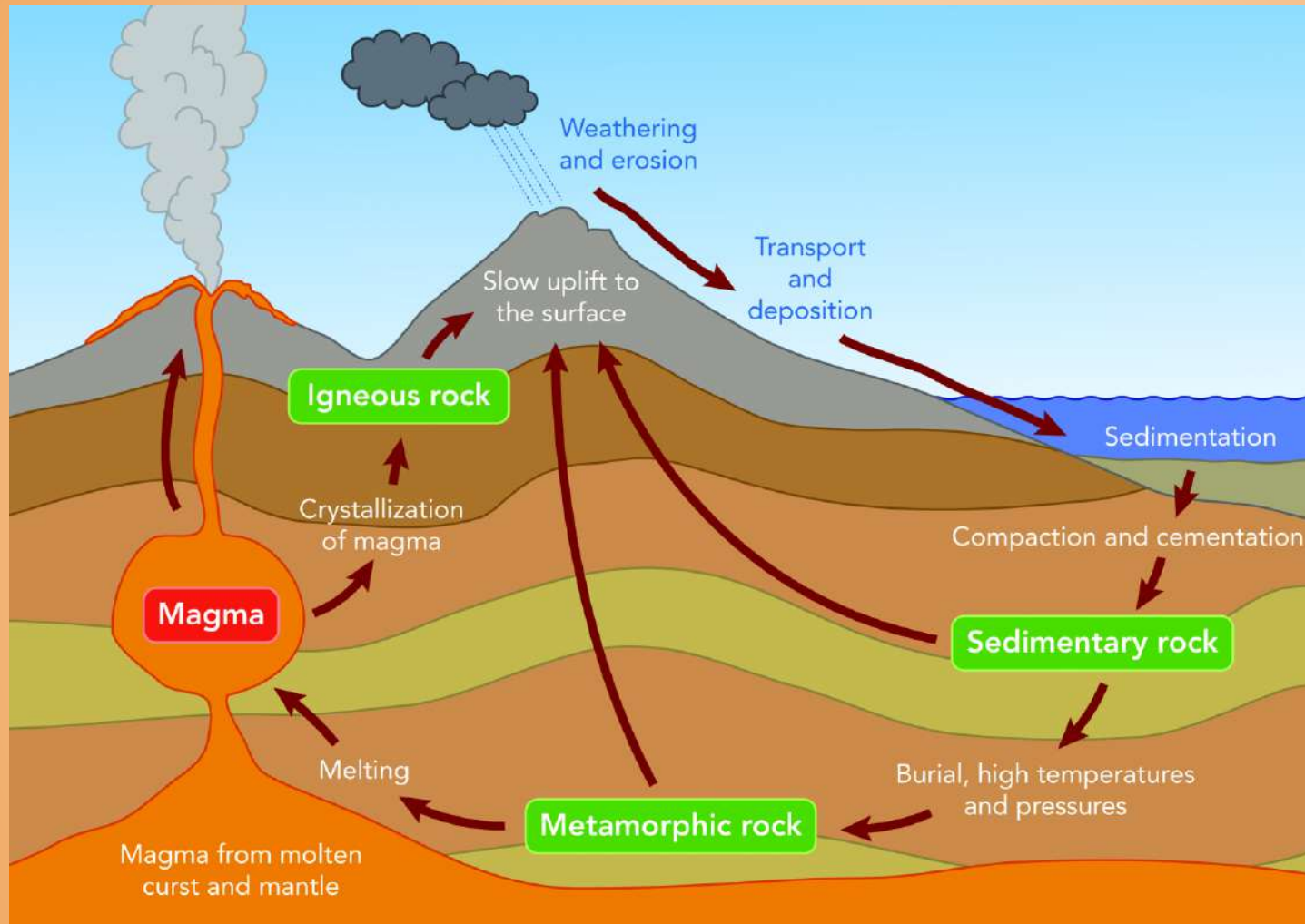


Emelyn
Lincoln
Dahlia
Scarlett
Aiden
Hallie

Emmitt
Lukas
Gavin
Devin
Rori


With Mrs. Kelly:
Landon, Emily, Ethan, Isabella
Laula, Dmitri






Turn to your speed dial 1 partner and use this diagram to talk through the rock cycle.






Word Work in a FLASH!

class



Text Example:

“Yet geologists organize all rocks into just three classes, or basic types: igneous, sedimentary, and metamorphic.”



Meaning:

group of people or things that are similar in some way

Based on this meaning, why do you think student groups in school are called classes

Synonyms:

Can you think of any synonyms for the word class?



Wiki Entry

Think back to yesterday...

What is a wiki?

What are some of the advantages of a wiki?

Today, you will be taking notes and creating your own draft of a wiki.

Volcano

Description

A volcano is a hill or mountain that forms over a crack in Earth's crust from which lava erupts.

Location

Volcanoes occur all over the world, particularly along tectonic plate boundaries and above hotspots.

Types of Volcanoes

There are three types of volcanoes:

- active
- dormant
- extinct

An active volcano has erupted in the past 10,000 years and is likely to erupt again. A dormant volcano is considered active but has not erupted for a very long time—several hundred years, for example. An extinct volcano has not erupted for at least 10,000 years. An extinct volcano no longer has a chamber full of magma beneath it, so it is not expected to erupt again.

Additional Information

Volcanoes can be creative forces. They can add new land to our planet and bring minerals from deep inside the earth to the surface. Volcanoes can also be dangerous and destructive. They can fill the air with poisonous gases and hot ash. They can also release rivers of lava that destroy everything in their path. Volcanoes can add things to Earth's surface but can also destroy things on Earth's surface.

References

The Changing Earth (2014)



Wiki Entry

Yesterday, I showed you how to take notes for a wiki. Today, you are going to do your own note taking and draft a wiki. I will take you through the steps!

Take Notes on a Volcano		
Name of the Volcano		
Location of the Volcano		
Type of Volcano; Date of Last Eruption		
Description of Volcano or of Last Eruption		
Other Facts		

References for Volcano Wiki Entry		
Title	Date	Source (Book or Web Address)



Turn to Activity Page 8.3 (workbook page 83)



The Year without a Summer

In the spring of 1815, a volcano called Tambora erupted in Indonesia. It was the largest volcanic eruption in recorded history. Tambora's eruption blasted enormous amounts of ash high into the atmosphere. In the months that followed, winds distributed the ash around the globe. The **fine** ash particles in the air blocked some of the sunlight reaching Earth's surface. Less sunlight meant less warmth. Because of Tambora, the weather was much colder than normal in 1816. There were hard frosts in New England all summer long. A foot of snow fell in eastern Canada in June. Weeks of cold rain killed most of the crops in Europe. Many people called 1816 "the year without a summer."

Tambora
Page 33

Wiki Entry

First, choose a volcano
to write about.



Mauna
Loa
Page 36



World's Tallest Mountain

The largest active volcano is Mauna Loa, a volcano on the island of Hawaii. Mauna Loa's last big eruption was in 1984. The volcano's peak is 13,796 feet above sea level but its base sits on the seafloor. From top to bottom, this enormous volcano measures more than 33,000 feet. Mount Everest is considered the world's highest mountain at 29,029 feet above sea level, even though Mauna Loa is taller. This is because nearly 20,000 feet of Mauna Loa are hidden beneath the sea.



Mauna Loa

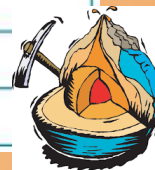


Wiki Entry

Now it is time for you to take your own notes. You may work with a partner or small group who is writing about the same volcano.

Take Notes on a Volcano	
Name of the Volcano	Supervolcano at Yellowstone
Location of the Volcano	North America
Type of Volcano; Date of Last Eruption	dormant; has not erupted in a long time, but could erupt again; last major eruption was 640,000 years ago
Description of Volcano or of Last Eruption	located above a hotspot one of the world 's largest volcanoes; called a supervolcano
Other Facts	heat from magma creates geysers and hot springs; Old Faithful erupts more than a dozen times a day; North America 's largest hotspot

References for Volcano Wiki Entry		
Title	Date	Source (Book or Web Address)
The Changing Earth	2014	Book
Top 10 Famous Volcanoes	March 3, 2014	content.time.com/time/specials/packages/article/0,28804,2014572_2014574_2014626,00.html



Wiki Entry

NAME: _____

DATE: _____

8.4

ACTIVITY PAGE

Volcano Wiki Entry

Use complete sentences to fill in the information below.

Volcano Name:

Location:

Volcano Type and Last Eruption Date:

Description:

Now you will use your notes to draft a wiki entry of your own. Tear out Activity Page 8.3 and begin writing your wiki on Activity page 8.4. I will put the completed wiki entry on the board for you to use as an example. You will have 20 minutes to write your wiki. When you finish, staple both pages together and turn it into the tray!



Wiki Entry

Volcano

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References

The Changing Earth (2014)



Remember, to use complete sentences. You have 20 minutes. You must turn in your notes and your wiki draft before the end of the day.

