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TALK ABOUT IT

Weekly Concept Patterns

**Essential Question** Where can you find patterns in nature?

≫ Go Digital



What patterns of colors and shapes do you see in the photograph? Where can you see patterns in nature? Write the information in the

chart.



Discuss the patterns you see in the salt marsh. Use words from the chart. Complete the sentences.

In the salt marsh, I see patterns of \_\_\_\_\_\_.

They are patterns because \_\_\_\_\_

# More Vocabulary



Look at the picture. Read the word. Then read the sentence. Talk about the word with a partner. Write your own sentence.



accumulate

It takes many years for layers of rock to **accumulate**.

What word means accumulate?

break collect divide

When does snow accumulate?

Snow accumulates when \_\_\_\_\_



The tile shows **patterns** of shapes.

What word means patterns?

designs materials parts

What pattern does a zebra have?

A zebra has a *pattern* of \_\_\_\_\_

# Words and Phrases: in fact and such as



The phrase in fact means "in truth" or "actually."

What is the weather like outside?

It is sunny today. But, in fact, it is very cold outside.



The phrase such as means "for example."

What does the store sell?

The store sells vegebables, such as tomatoes and green beans.



Talk with a partner. Look at the picture. Read the sentence. **COLLABORATE** Write the word that completes each sentence.



It looks easy to spin the hoop, but

it is hard to do. in fact such as



The aquarium has many sea animals,

sharks.

in fact such as

# Text Evidence



Look at the photograph. Read the title. Talk about what you see. Use these words.

change rock hill layer

Write about what you see.

The text is about \_\_\_\_\_

What does the photograph show?

The photograph shows \_\_\_\_\_

What does the rock look like?

The rock has \_\_\_\_\_

Take notes as you read the text.

Shared Read Genre • Expository Text

## **Essential Question**



Where can you find patterns in nature?

Read about patterns you can find in rocks and rock formations.

### **Rock Solid**

Rocks change. In fact, water, wind, and temperature slowly change one type of rock into another type of rock. These forces also shape the rocks that make up land.

The photograph across these pages shows an example. This rock structure is the Wave formation. It is made of sand that turned to rock over a long time.

### **Igneous Rocks**

Igneous rocks are one type of rock. They are formed from hot, liquid rock called magma. Magma flows far below Earth's surface, but sometimes it moves to Earth's surface through volcanoes. When this happens, magma becomes lava. Lava, or melted rock, slowly cools. Eventually, it hardens into solid rock.

There are many kinds of igneous rock. Two kinds are granite and obsidian. Granite feels rough and comes in many colors. Obsidian is smooth and often black.

Obsidian

Granite

# Text Evidence

# Specific Vocabulary O

Reread the second sentence in the third paragraph. What is magma? Circle the words that tell you.

Magma is \_\_\_\_\_

# Comprehension Main Idea and Key Details

Reread the last paragraph. Underline the details that tell about igneous rock.

Granite and obsidian are \_\_\_\_\_

# **3** Sentence Structure **AG**

Read the third sentence in the third paragraph. Underline the text that tells what magma does sometimes.

Sometimes magma

# Text Evidence

# Sentence Structure

Reread the third sentence. What do water and wind do with particles? Circle the two verbs. Write about it.

Water and wind \_\_\_\_\_

# **2** Specific Vocabulary **A91**

The word *deposit* means "to leave something at a place." What things do water and wind deposit? Put a box around the text. Where do they get deposited? Circle the text.



Reread the fourth paragraph. Discuss what makes a stratum. Then write about it.

# **Sedimentary Rocks**

Water and wind transform igneous rock. Slowly, water and wind erode, or break apart, igneous rock. Then water and wind carry away the particles of broken rock and deposit them at places, such as a beach or a desert.

Gradually, the particles collect in layers. The layers get pressed together until they form a new material, called sedimentary rock. The materials that form sedimentary rock include rocks and sand. It can also include matter from living things, such as plants, bones, and shells.

There are different kinds of sedimentary rock. Sandstone is formed from sand. Limestone is made of bones and shells.

# **Rock Formations**

esearchers; (b)

Inc./Richard Hutchings - photographer; (c) Doug Martin/Photor

(t) McGraw-

Over time, a layer of one kind of sedimentary rock forms, called *stratum*. Geologists who study rocks call a layer made of the same materials at about the same time a stratum. Another stratum forms on top of the first stratum. The plural for stratum is strata.

Many strata can **accumulate**. The oldest layer is at the bottom. The youngest layer is at the top. Geologists learn a lot by studying the chronology of layers. The layers create **patterns**. Limestone

Marble

Sandstone

ELD.PI.5.1.Em, ELD.PI.5.5.Em, ELD.PI.5.6a.Em, ELD.PI.5.8.Em, ELD.PI.5.10a.Em See the California Standards section.

# The Rock Cycle

You can find a third type of rock, called metamorphic rock, below Earth's surface. Layers of rock above the metamorphic rocks press down on them. At the same time, magma heats the metamorphic rocks from below. The heat causes some metamorphic rocks to melt and become magma.

As the magma slowly cools, it turns back into igneous rock. This process is called the rock cycle. The rock cycle is a pattern that repeats and continues. It turns liquid rock into a solid. It builds cliffs from sand and bones. And it returns rock to liquid form.



### **Make Connections**

Talk about the patterns you can find in sedimentary rocks. Where do you see these patterns? ESSENTIAL QUESTION

Compare the patterns in rocks with other patterns you have seen. TEXT TO SELF

### ELD.PI.5.1.Em, ELD.PI.5.5.Em, ELD.PI.5.6a.Em, ELD.PI.5.8.Em, ELD.PI.5.10a.Em See the California Standards section.

# **Text Evidence**

# Sentence Structure

Reread the second sentence. Circle the phrase that tells about location. Where are the metamorphic rocks?

Metamorphic rocks are

# **2** Comprehension Main Idea and Key Details

Reread the second paragraph. What is the rock cycle? Put a box around three details that tell what happens in the rock cycle. Write the details.



Talk about the diagram of the rock cycle. Discuss how rocks change to liquid then back to solid.

# **Respond to the Text**



**Partner Discussion** Work with a partner. Read the questions about "Patterns of Change." Show where you found text evidence. Write the page numbers. Then discuss what you learned.

What patterns are in rocks?	Text Evidence
I learned that water and wind cause	Page(s):
Strata are	Page(s):
Layers are patterns because	Page(s):

What pattern is in the rock cycle?	Text Evidence 🔍
First, magma	Page(s):
Then, igneous rock	Page(s):
Finally, sedimentary and metamorphic rock	Page(s):
The rock cycle is a pattern because	Page(s):



**See** the California Standards section.



Write Work with a partner. Look at your notes about "Patterns of Change." Write your answer to the Essential Question. Use text evidence to support your answer. Use vocabulary words in your writing.

What patterns can you find in rocks?	
Strata are layers of	
Strata are one kind of pattern because	
A rock cycle is a process of	
A rock cycle is another kind of pattern because	



Share Writing Present your writing to the class. Discuss their opinions. Talk **COLLABORATE** about their ideas. Explain why you agree or disagree with their ideas.

I agree with \_\_\_\_\_

I do not agree because \_\_\_\_\_

# Write to Sources



**Take Notes About the Text** I took notes on the idea web to answer the question: *How can the flow chart of the rock cycle help me explain the text?* 



pages 32-35



Write About the Text I used notes from my idea web to write about the flow chart.

### Student Model: Informative Text

The flow chart shows the information in the text. First, the topic of the flow chart and text are about the rock cycle. Then, the flow chart shows with pictures how rock changes form. For example, squeezing and cementing changes sediment into sedimentary rock. The text explains this information. Finally, the arrows in the flow chart show that a cycle repeats. The text explains that a cycle repeats.

# TALK ABOUT IT



### **Text Evidence**

**Draw a box** around a sentence that comes from the notes. Does the sentence provide a detail or topic?

### Grammar

**Circle** the words *flow chart*. What prepositional phrase can Samantha add to give more detail about the flow chart?

# **Condense Ideas**

**Underline** the two sentences about a cycle. How can you combine the sentences using *and*.

### **Your Turn**



What do the green arrows in the flow chart show? Use text evidence in your writing.

Solution Digital! Write your response online. Use your editing checklist.



anders

# ELD Companion Worktext



Mc Graw

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# TALK ABOUT IT

Weekly Concept Patterns

**Essential Question** Where can you find patterns in nature?

≫ Go Digital



What patterns do you see in the salt marsh? Where can you see patterns in nature? Write the information in the chart.



Discuss the patterns you see in the salt marsh. Use words from the chart. You can say:

The salt marsh has patterns of \_\_\_\_\_\_.

They make a pattern because they \_\_\_\_\_

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# More Vocabulary



Look at the picture and read the word. Then read the sentence. Talk about the word with a partner. Write your own sentence.



accumulate

It took millions of years for the layers of rock to **accumulate**.

During a storm, a lot of \_\_\_\_\_

\_\_\_\_\_ accumulate.



### depositing

The river is **depositing** water into the sea. As water flows in rivers, it carries small pieces of rock and *deposits* them \_\_\_\_\_



effects

The damaging **effects** of the storm caused difficulties for traveling.

Another word for *effects* is \_\_\_\_\_



forces

The **forces** of a hurricane cause the tops of trees to blow sideways.

The forces of wind and water can cause \_\_\_\_\_



### patterns

The tile has **patterns** of triangles and squares.

To find a *pattern* you need to look for \_\_\_\_\_



substance

Rock is a **substance** that is hard and solid. Water is a *substance* that is

# Words and Phrases Connecting and Preposition Words

### moreover = in addition

Jack's idea may work. Moreover, it may be fun to try it.

*upon* = on

Mary's house sits upon a mountain.

Read the sentences below. Write the word or phrase that completes each sentence.

Alan piled one book \_\_\_\_\_\_ another book.

Soccer is fun to play. \_\_\_\_\_, soccer helps people stay healthy.

Apples are sweet and delicious. \_\_\_\_\_, apples are healthful.

The queen sat \_\_\_\_\_\_ a gold throne.

*So Digital* Add the words *moreover* and *upon* to your New Words notebook. Write a sentence to show the meaning of each.

# Text Evidence



Look at the photograph. Read the title. Talk about what you see. Write your ideas.

What do the rocks look like?

What kinds of patterns do you see?

What does the title tell you?

Take notes as you read the text.

# **Shared Read** Genre • Expository Text

# **Essential Question**



Where can you find patterns in nature?

Read about patterns you can find in rocks and rock formations.

ELD.PI.5.1.Ex, ELD.PI.5.1.Br, ELD.PI.5.5.Ex, ELD.PI.5.5.Br, ELD.PI.5.6a.Ex, ELD.PI.5.6a.Br See the California Standards section.

### **Rock Solid**

"Solid as a rock" is a saying often used to describe something that's reliable, that doesn't change. But, in fact, rocks do change. The **effects** of water, wind, and temperature over long periods of time slowly transform one type of rock into another type of rock. These same **forces** also shape awe-inspiring landscapes and sketch designs on rock. Nature's **patterns** are visible in some rocks as small as pebbles and in wonders as vast as the **Grand Canyon**.

The photograph across these pages shows one example of nature's art. This structure of rock, known as the Wave formation, is made of sandstone. It is sand turned to rock over a long period of time.

### **Igneous Rocks**

Igneous rocks are one type of rock. They are formed from hot, liquid rock called magma. Magma exists far below the Earth's surface, but it sometimes escapes to the surface through cracks, such as the mouths of volcanoes. Then, we call it lava.

This molten rock, or lava, is composed of minerals. As the minerals slowly cool, they form crystals. Eventually, the once fiery liquid hardens into a solid **substance**.

There are many kinds of igneous rock. Their textures and colors come from their crystallized minerals. You may be familiar with granite, which feels rough and comes in many colors. Another variety of igneous rock is obsidian, which is smooth and often black.

# Constraints Constraints Obsidiant Constraints

# Text Evidence

# Specific Vocabulary (197)

The word *transform* means "to change form or shape." Circle the text that tells what transforms. Put a box around a synonym of transform.

\_ transforms

into \_\_\_\_\_

# 2 Sentence Structure AGT

Reread the second paragraph. Underline the name of the rock structure. What does the phrase *This structure of rock* refer to?

The rock structure is \_\_\_\_\_

### **B** Comprehension

Reread the fifth paragraph. What are some types of igneous rock? Underline two details. Write to retell the details.

ELD.PI.5.1.Ex, ELD.PI.5.1.Br, ELD.PI.5.5.Ex, ELD.PI.5.5.Br, ELD.PI.5.6a.Ex, ELD.PI.5.6a.Br See the California Standards section.

# Text Evidence

# Sentence Structure AGT

Reread the second sentence. Circle the text that *them* refers to. Then underline the text that explains what happens after wind and water erode them. Write about it.

After water and wind erode \_\_\_\_\_

# **2** Specific Vocabulary **A91**

The phrase *Just as* means "in the same way or equally" and can be used to compare. Underline the text that tells what things are being compared.



### **3** Talk About It

Reread the fifth paragraph. Discuss why the oldest layers of rock are at the bottom. Write about it.

# **Sedimentary Rocks**

nez/Photo Researchers

Companies - Inc./Richard Hutchings - photographer; (c) Doug Martin/Photoresearchers; (b) Andrew J. Mar

bkgd) Joe McDonald/Corbis; (t) McGraw-Hill

Igneous rocks do not stay the same forever. Water and wind erode them, carrying away particles of broken rock and **depositing** them elsewhere. These particles may be left on a beach or riverbank, in a desert or the sea.

Gradually, the particles collect in layers. The contact between the particles and the weight of the layers squeeze out any pockets of moisture or air. Pressed together, the particles form a new material called sedimentary rock. It is formed from many different sorts of sediment. It can include rocks and sand, as well as biological matter, such as plants, bones, and shells.

Just as there are different kinds of igneous rock, there are different kinds of sedimentary rock. Sandstone is formed from sand. Limestone is composed of bones and shells.

## **Rock Formations**

Over time, a layer can be created entirely of one kind of sedimentary rock. Geologists who study rocks call a layer made of the same material and at about the same time a *stratum*. Another stratum of a different kind can be deposited on top of the first one. The plural for stratum is strata.

Many strata of different kinds of rock can accumulate. Each one will press down on those that came before it. Scientists learn a lot by studying the chronology of layers. The oldest layer will be at the bottom, the youngest at the top.

These layers of sedimentary rock can create dazzling patterns. Each layer will have its own texture and colors. Moreover, water and wind will continue to do their work.



Marble

ELD.PI.5.1.Ex, ELD.PI.5.1.Br, ELD.PI.5.5.Ex, ELD.PI.5.5.Br, ELD.PI.5.6a.Ex, ELD.PI.5.6a.Br, ELD.PI.5.8.Ex, ELD.PI.5.8.Br See the California Standards section.

# **The Rock Cycle**

Still, rocks continue to change. There is a third type of rock below the earth's surface, called metamorphic rock. These rocks are pressed down upon by the layers of rock above them. At the same time, they are heated by the magma beneath them. Eventually, the heat will cause some metamorphic rock to melt and become magma.

As the magma slowly cools, it will turn back into igneous rock. The repetition of this process is called the rock cycle. The rock cycle is a pattern—a pattern of change that repeats and continues. It transforms liquid rock into a solid substance. It builds cliffs from sand and bones. And it returns rock to liquid form.



# Make Connections

Talk about the patterns you can find in sedimentary rocks. Where do you see these patterns? ESSENTIAL QUESTION

Compare the patterns of change in rocks with other patterns you have seen. **TEXT TO SELF** 

# Text Evidence (

# Comprehension Main Idea and Details

Reread the first paragraph. Underline two details about metamorphic rock. Write about it.

# **2** Sentence Structure **AG**

Reread the first sentence in the last paragraph. Circle the text that tells what happens while the magma cools. How do you know the events happen at the same time?

I know because \_\_\_\_\_

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# Specific Vocabulary ()

The word *cycle* means "related events that happen again and again." Put a box around text clues that help you figure out the meaning of *cycle*.

ELD.PI.5.1.Ex, ELD.PI.5.1.Br, ELD.PI.5.5.Ex, ELD.PI.5.5.Br, ELD.PI.5.6a.Ex, ELD.PI.5.6a.Br, ELD.PI.5.8.Ex, ELD.PI.5.8.Br See the California Standards section.

# **Respond to the Text**



**Partner Discussion** Work with a partner. Answer the questions. Discuss what you learned in "Patterns of Change." Write the page numbers where you found text evidence.

What patterns are in rocks?	Text Evidence 🤍
I learned that rocks change from	Page(s):
Strata are created by	Page(s):
Layers form patterns by	Page(s):

What pattern is in the rock cycle?	Text Evidence
First,	Page(s):
Then,	Page(s):
Finally,	Page(s):
The rock cycle is a pattern because	Page(s):



**Group Discussion** Present your answers to the group. Cite text evidence to justify your thinking. Listen to and discuss the group's opinions about your answers.



Write Review your notes about "Patterns of Change." Then write your answer to the Essential Question. Use text evidence to support your answer. Use vocabulary words from this week's reading in your writing.

Strata are _			
Examples o	strata include		
Strata is on	e kind of pattern because		
A rock cycl	is a process of		
A rock cycl	is another kind of pattern becau	ISE	



**Share Writing** Present your writing to the class. Discuss their opinions. Think about what the class has to say. Did they justify their claims? Explain why you agree or disagree with their claims.

I agree with \_\_\_\_\_\_ because \_\_\_\_\_\_

I do not agree because \_\_\_\_\_

# Write to Sources



**Take Notes About the Text I** took notes on the idea web to answer the question: *How can you use the flow chart of the rock cycle to explain the text?* 



pages 166-169



Write About the Text I used notes from my idea web to help me write an informative text about the flow chart.

### Student Model: Informative Text

The pictures, arrows, and text in the flow chart show the information in the text. First. the topic of both the flow chart and the text is the rock cycle. Then, the flow chart shows with short text, pictures, and arrows how rock changes from one form to another. The text explains the same information. For example, squeezing and cementing changes sediment into sedimentary rock. Finally, the flow chart shows arrows to explain that the cycle repeats. The text explains that the cycle is a repeating pattern.

# TALK ABOUT IT



# **Text Evidence**

**Draw a box** around the topic sentence, which clearly states the main idea of the response. Why is a strong opening important?

# Grammar

**Circle** the words *flow chart*. What prepositional phrase can Samantha add to give more detail about the flow chart?

# **Condense Ideas**

**Underline** the two sentences about the cycle. How can you combine the sentences to create a more precise sentence?

# Your Turn



Why are the green arrows in the flow chart important? Use text evidence in your writing.

**Solution Solution Digital!** Write your response online. Use your editing checklist.