Unit 3/Week 2

Title: Mountains

Suggested Time: 5 days (45 minutes per day)

Common Core ELA Standards: RI.4.1, RI.4.2, RI.4.3, RI.4.4, RI.4.7, RI.4.10; RF.4.3, RF.4.4; W.4.2, W.4.10, SL.4.1, SL.4.2; L.4.1, L.4.2, L.4.4, L.4.6

Teacher Instructions

*Refer to the Introduction for further details.*

**Before Teaching**

1. Read the Big Ideas and Key Understandings and the Synopsis. Please do **not** read this to the students. This is a description for teachers, about the big ideas and key understanding that students should take away **after** completing this task.

Big Ideas and Key Understandings

The author describes different kinds of mountains, how they are formed, how they change over time, and how they affect climate.

Synopsis

In this informational text the author describes mountains in different parts of the world. He tells about the effects of erosion on mountains and the effects of mountains on climate.

1. Read entire main selection text, keeping in mind the Big Ideas and Key Understandings.
2. Re-read the main selection text while noting the stopping points for the Text Dependent Questions and teaching Vocabulary.

**During Teaching**

1. Students read the entire main selection text independently.
2. Teacher reads the main selection text aloud with students following along. (Depending on how complex the text is and the amount of support needed by students, the teacher may choose to reverse the order of steps 1 and 2.)
3. Students and teacher re-read the text while stopping to respond to and discuss the questions and returning to the text. A variety of methods can be used to structure the reading and discussion (i.e.: whole class discussion, think-pair-share, independent written response, group work, etc.)

Text Dependent Questions

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| **Text Dependent Questions** | **Answers** |
| The author makes this statement about mountains: “They seem to be solid and unchanging, but they are not everlasting.” Based on the information in that paragraph, what does “everlasting” mean? | Something that is everlasting would be unchanging. However, the mountains are born, grow tall over the years, change their shapes, and are finally worn down to disappear into the earth. |
| Why are the peaks of many tall mountains covered in snow? | The temperature drops about three degrees F for every 1000 feet, so the tops of tall mountains are in very cold air. |
| The author states “mountains like this would be called foothills.” Explain the meaning of foothill. Can you break down the word to help you determine its meaning? | A foothill is a hill at the base of a mountain (just like the foot is at the “base” of a person’s body). Whether the land is called a mountain or a foothill depends upon how high the surroundings are. |
| Look at the circular graphic, how does this graphic support the information in the text? | The graphic shows that islands are actually the tips of volcanic mountains in the ocean. |
| The author writes, “It takes many thousands of years to bring about changes in the rocks of the earth’s crust.” How do time and pressure change rocks? | In the earth’s crust, pressure pushes sideways against the rocks. Over thousands of years the rocks twist and bend, producing great folded mountain chains. |
| How can you identify the type of a mountain? | The shape of the top of a mountain indicates how it was formed. You can also find identifying characteristics in the layers of rocks. |
| The author says, “These constant temperature changes begin to crack the rock.” What does constant mean in this sentence? | The sun heats the rocks during the day but the temperatures are cold at night. Constant means the temperatures are warm every day and cold every night. |
| Which words or phrases give you clues to the meaning of the word *erosion*? | “Worn down steadily and slowly”; “chemical changes”; “changing temperatures, water freezing in cracks and expanding, wind blows sand”; “rock slide or avalanche”; “carve away” (accept any appropriate text-based answers) |
| Describe one way that mountains affect weather and climate. | Mountains break up the flow of winds and the movement of weather fronts. When air containing water vapor is forced to rise over a mountain the air becomes colder, causing clouds, mist, fog, and rain. |
| “Not many people live on mountains, but mountains are important to all of us.” What does the author say to support this statement? | Mountains create rain forests and deserts. They store water on snowy peaks and release it in rivers that make valleys green and fertile. The flowing water can be harnessed to manufacture electricity. People climb mountains for recreation. |

Vocabulary

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|  | **KEY WORDS ESSENTIAL TO UNDERSTANDING** | **WORDS WORTH KNOWING**  General teaching suggestions are provided in the Introduction |
| **TEACHER PROVIDES DEFINITION**  not enough contextual clues provided in the text | plates  crust  coast ranges  peaks  fault | solitary, altitude, slope |
| **STUDENTS FIGURE OUT THE MEANING**  sufficient context clues are provided in the text | foothill  strata  magna, molten, fault  eruption, depths  revealed  weathering/erosion  contract, immediate  scarcely, harnessed | everlasting  welling up, gradually  constant |

Culminating Task

* Re-Read, Think, Discuss, Write

*Seymour Simon, the author, wrote “Mountains” to describe the different kinds of mountains and how they were formed. Using evidence from the text, list the four kinds of mountains and explain how they were formed.*

Answer: There are four kinds of mountains, and they were formed in different ways. Folded mountains were formed by pressure pushing against rocks on the earth’s surface over time. Fault-block mountains were formed when rocks broke as plates moved apart. Volcanic mountains were formed as lava and cinders cooled after a volcanic eruption. Dome mountains were formed when the magma pushed up the earth’s surface, but there was no eruption of hot lava.

Additional Tasks

* What important information did you learn about mountains from this text? What questions do you have after reading this text?

* The author tells about folded mountains and fault-block mountains. Using a Venn diagram, compare and contrast the two types of mountains.

Answer: Folded mountains only – earth pressure pushes sideways against a plate; resembles a folded piece of paper

Same – both formed through pressure on rocks over time

Fault-block mountains only– one plate breaks away from another plate – magma causes blocks of rock to rise or fall; steep face on one side, gentle slope on another

* Adding the suffix *-al* to a noun changes the part of speech to an adjective. The text states, “...the coastal mountain ranges...” in which the noun “coast” is changed to the adjective “coastal.” Add the adjective suffix *-al* to the words region and glacier. Write two sentences using these two words.
* Work with a partner or in small groups to label mountain ranges on a map of the continents.
* Using a multiple meaning graphic organizer (in partners or in groups) write as many meanings as you can for the following words:

Fault, crust, plates, range, peak

* After reading *To the Top of the World* independently, work in small groups to share information from the article.

Note to Teacher

* This text has a lexile of 1170L, so scaffolding may be needed.