BOOK STATS

Grade Level Equivalent: 1–3
Ages: 6+
Lexile Measure®: 710L
Pages: 32
Genre: Science Nonfiction
Subject/Theme: Volcanoes, Earth Science, Natural Disasters

Common Core Standards	Reading	Writing	Listening & Speaking	Language
Grade 1	RI.1.1, RI.1.3, RI.1.4, RI.1.5, RI.1.6, RI.1.7	W.1.2, W.1.3	SL.1.1, SL.1.5	L.1.4
Grade 2	RI.2.1, RI.2.3, RI.2.4, RI.2.5, RI.2.7	W.2.2, W.2.3	SL.2,1, SL.2.5	L.2.4
Grade 3	RI.3.1, RI.3.3, RI.3.4, RI.3.5, RI.3.7	W.3.2, W.3.3	SL.3,1 , SL.3.5	L.3.4, L.3.6

OVERVIEW

Book Summary

The book begins with the BOOM of a volcano blowing its top. Through dramatic photos and fact-packed text, young readers learn about the fiery lava, deadly ash, and gas that erupt from volcanoes. A chart and photos introduce the three main volcano types plus examples of each from around the world.

Chapter Two takes readers inside the Earth to explain the forces that cause a volcano to erupt. Graphic features such as diagrams and maps show key parts of the interior of a volcano, the Ring of Fire where tectonic plates cause volcanic action, and the hot spots under the Hawaiian Islands. Chapter Three discusses some of the worst volcano disasters in history, as well as, the work of volcanologists who study volcanoes and try to predict their eruptions.

Volcanoes is part of the Smart Words Readers series that introduces students to key science content-area vocabulary. End-of-chapter activities involve students in practicing the words, talking like a scientist, and reading engaging Smart Facts that add both fun and depth to the study of volcanoes.

Teaching the Book

Volcanoes introduces young readers to the science behind one of the most powerful and awesome forces of nature. The book provides an opportunity to teach cause-and-effect relationships in nature, as well as, key content-area vocabulary in earth science. Activities will engage students in graphing volcano statistics, reading and retelling a volcano legend, and writing a volcano FAQ.

Theme Focus: Science Nonfiction
Comprehension Focus: Cause & Effect
Language Focus: Science Content-Area Vocabulary

ABOUT THE AUTHOR

Judith Bauer Stamper is a writer and editor of books for young readers. She has written many science readers including other titles in the Smart Words Reader series and several Magic School Bus chapter books. She lives in New Jersey near New York City with her cat Stinky.

Get Ready to Read

Pre-Reading Activities

True or False? Engage interest and build background knowledge about volcanoes with the following true or false questions.

1. There are over 1,500 active volcanoes in the world. True or False? (*True*)

2. A volcano blows its top when the sun heats liquid inside it. True or False? (*False*)

3. The Hawaiian Islands are the tips of huge underwater mountains formed by lava from volcanoes. True or False? (*True*)

4. Parts of Hawaii have black sand beaches made up of small pieces of lava. True or False? (*True*)

5. Scientists can always predict when a volcano will erupt. True of False? (*False*)

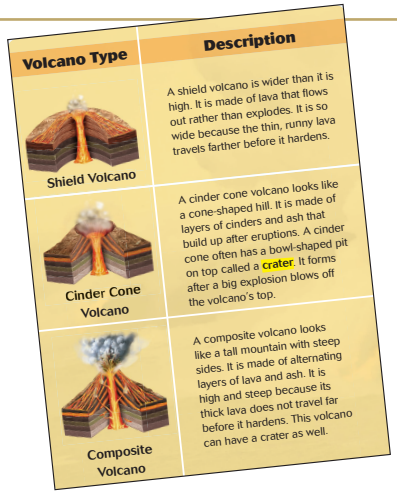
You may want to tally and record students' answers on chart paper or the whiteboard and return to the questions after reading the book.

Preview and Predict Have students study the cover of *Volcanoes*. Ask them to describe what they see and explain what they think is happening in the photo.

STORIA ENRICHMENTS

This Storia e-book has the following enrichments to enhance students' comprehension of the book.

- Picture Starter
- Word Bird
- Scratch & See (2)
- Sequencing
- Multiple Choice Text
- Word Match
- Jigsaw Puzzle



BIG QUESTION

Critical Thinking Ask students to think about this question as they read and be ready to answer it when they have finished the book. Write the question on chart paper or have students write it in their reading journals.

Will people ever be able to control volcanoes? Why or why not?

Vocabulary

Science Content-Area Vocabulary The Smart Words Readers introduce and reinforce key science content-area vocabulary. Guide students to look for definitions on the page where the words first appear and then review at the end of each chapter. Point out these features to students before they begin to read *Volcanoes*. Encourage students to reinforce the words' meanings by connecting them to the photographs and other visuals on the pages.

Use **Resource #1: Vocabulary Cards** on pages 7 and 8 and distribute copies to students.

volcano (p. 4)
lava (p. 6)
gas (p. 8)
crater (p. 10)
magma (p. 14)
vent (p. 14)
crust (p. 16)
disaster (p. 22)
evacuate (p. 24)
measure (p. 26)
erupt (p. 4)
ash (p. 8)
climate (p. 9)
temperature (p. 14)
pressure (p. 14)
tectonic plate (p. 16)
hot spot (p. 18)
predict (p. 24)
volcanologist (p. 26)
observe (p. 26)

As You Read

Reading the Book

Modeled Reading Project the book on a whiteboard or screen and read aloud pages 4 and 5 for students. Point to the text chunks as you read. Then direct students' attention to the photo captions and discuss what the photographs show, connecting them to the text. Finally, point to the glossary box for Smart Words and explain that these are definitions for the words highlighted in yellow in the text.

Independent Reading Chunk the book into three reading sessions and read one chapter per session. At the end of each chapter, have students work with partners to do the Smart Word activities and read the Smart Facts together.

Comprehension Focus

Cause and Effect Relationships Explain to students that science books like *Volcanoes* are full of cause and effect relationships. A cause is the reason that something happens. An effect is the result of the cause. Recognizing cause and effect relationships helps readers better understand the meaning of a science text.

Use the graphic organizer on **Resource #2: Cause and Effect** to model for students how to identify a cause and effect relationship. Project the page on a whiteboard or pass out copies to students. Then model how to identify the cause and effect in the first paragraph about lava on page 7.

> **Model:** The text reads: "As the lava cools, it turns from a red liquid to a black solid." First, I'll look for the cause. A cause is the reason something happens. So I'll write in the Cause box: "The lava cools." An effect is the result of the cause. So I'll write in the Effect box: "It turns from a red liquid to a black solid."

Next, have students identify the rest of the cause and effect relationships listed on the organizer.

After You Read

Questions to Discuss

Lead students in a discussion of these focus story elements.

1. Science Nonfiction How do the diagrams on pages 10 and 15 help you understand volcanoes? What do they show? Is the picture more helpful than the text? (*Sample answer: The diagram on page 10 shows how volcanoes become different shapes. The diagram on page 15 helps me picture in my mind the different parts of a volcano. I think the picture is more helpful than the text.*)

2. Cause and Effect Describe a cause and effect relationship in the Description of a Shield Volcano on page 10. What is the cause? What is the effect? (*Sample answer: A shield volcano is so wide because thin, runny lava travels farther before it hardens. The cause is the thin runny lava that travels far. The effect is that the volcano is wide.*)

3. Science Content-Area Vocabulary All scientists observe and measure things. What is an example of another kind of scientist who observes things? (*Sample answer: A meteorologist observes clouds.*) What is an example of another kind of scientist who studies the environment? (*Sample answer: An ecologist studies pollution in the air or water.*)

WORDS TO KNOW

Science Content-Area Words

The Smart Word activities at the end of each chapter reinforce the meaning of the volcano-related vocabulary. Use the vocabulary resource cards to give students more practice with the words. Have students cut the pages into individual cards.

Next, ask students to respond to the "Talk Like a Scientist" prompts at the bottom of pages 12, 20, and 28. Ask each student to choose three of the vocabulary cards to use in their response and then "talk like a scientist" to the rest of the class about the prompts.

Questions to Share

Encourage students to share their responses with a partner or small group.

1. Text to Self Would you like to be a volcanologist? Why or why not? What kind of skills would you need?

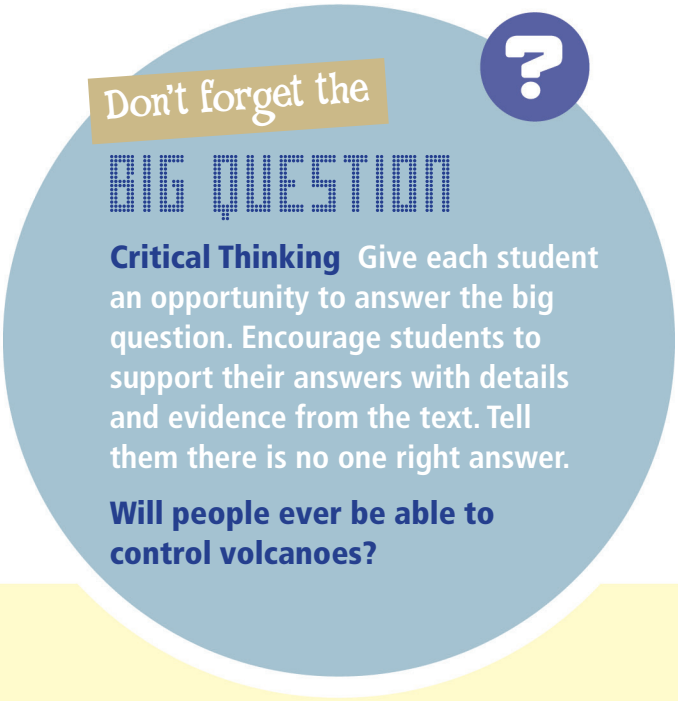
2. Text to World What other kinds of natural disasters have happened in the world? Were they more or less destructive than a volcano?

3. Text to Text How is this book different from other science books that you have read? What features of the book do you like most?

Extension Activities

Reading/Writing Connection

A Volcano FAQ Explain to students that one way to provide information about a subject is by writing a FAQ list, or frequently asked questions. The FAQ list is made up of questions that are often asked about a topic and include answers to the questions. Organize students into learning groups of four or five. Instruct each group to come up with ten to fifteen frequently asked questions about volcanoes. Guide students to use the content in *Volcanoes* to create the questions or generate their own questions. Instruct students to divide up the questions among their group, write the answers, and put together all their work into a group FAQ.



Content Area Connections

Social Studies **Volcanoes in Action** Watch free educational videos of erupting volcanoes at the website ***WatchKnowLearn.org***. For a video of volcanic activity on the big island of Hawaii with a park ranger narration, visit: ***http://bit.ly/PVxdtC***. For a slideshow of violent volcanoes, visit: ***http://bit.ly/RZeI5E***.

Language Arts **Powerful Pele** Introduce students to Pele, the goddess of volcanoes in Hawaiian legend. There are several picture books about the legend, including *Pele and the Rivers of Fire* by Michael Nordenstrom. Use the Pele story as inspiration for students to do an audio recording of a dramatic retelling of the legend. Encourage students to enhance their telling with sound effects.

Science **Eruption!** For an explosive and fun science project, give students the opportunity to make a model of an underwater volcano that actually erupts. For a lesson plan on making a volcano in your classroom, visit the Scholastic website at: ***http://bit.ly/X7Ovb3***. You can also make copies of the eruption printable for students to use while they do the experiment which is found on the Scholastic website at: ***http://bit.ly/QdfizP***.

Math **Volcano Statistics** Encourage students to create charts and graphs based on their research of volcano statistics. For great information about volcanoes, guide students to visit the Fact Monster website at: ***http://bit.ly/W7ndf0***. For example, they might create a graph of the top ten deadliest volcanic eruptions using statistics from this chart on the Fact Monster website: ***http://bit.ly/SnJTpv***.

BIG ACTIVITY

An Explosive e-Card! What would it be like to visit a place where a volcano is erupting? Guide students to use their knowledge and imagination to write an e-card from the scene of an exploding volcano. Distribute copies of the **Big Activity Resource: An Explosive e-Card!** on page 5 to each student. Direct students to write an e-card to a friend or family member. Have them choose the volcano they are reporting on from the book *Volcanoes*. Ask students to draw a picture for the e-card and write their message.

Name: _____ Date: _____

BIG ACTIVITY: An Explosive e-Card!

Imagine that you are on the scene when a volcano explodes! Write a friend or family member about what you see.

1. Draw a picture of the volcano exploding.

2. Write your message. _____

_____

_____

_____

READ MORE AND LEARN MORE

Use these books and other resources to expand your students' study of the book or theme.

Series Connections

Smart Words Science Reader #15: Tornadoes

Ages: 6–9 **Grades:** 1–3
Lexile Measure®: 1000L **Pages:** 32
Guided Reading Level: S

The United States gets an average of one thousand tornadoes a year—more than any other country! Learn how these destructive winds start, where they hit, how they are measured, and how people stay safe during tornadoes. Packed with mind-blowing photos and illustrations, this book also introduces 20 "smart words" that are essential for understanding tornadoes. **Available as a Storia e-book**

Smart Words Science Reader #3: Caves

Ages: 6–9 **Grades:** 1–3
Lexile Measure®: 730L **Pages:** 32

Deep, dark, and full of mystery, caves are some of the most impressive features of the natural world. This eye-opening text explores many different types of caves including limestone caverns, sea caves, glacier caves, and lava tubes formed out of volcanic rock. It also takes readers on a tour of the surprising animal and plant life that exists in caves—even in the dark zones where light never shines. **Available as a Storia e-book**

Subject Connection

National Geographic Readers: Volcanoes Available as a Storia e-book

Ann Schreiber

Ages: 6–8 **Grades:** 1–2
Pages: 32

Volcanoes are one of the earth's most amazing features. These fire-spewing mountains can be found all over the world. In this fascinating fact-filled book, readers can learn about how volcanoes work, how they are formed, and what causes them to erupt. The pages are packed with full-color photos and funny jokes, and they feature word bursts that define terms like magma and tsunami. **Available as a Storia e-book**

To find PDF versions of the Storia teacher guides and links to purchase the related books, visit: ***http://teacher.scholastic.com/ereading-resources/***.

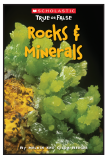
Genre Connections

Scholastic Reader Level 3: Fires and Floods

Kate Waters

Ages: 6–8 **Grades:** 1–2
Lexile Measure®: 610L **Pages:** 48
Guided Reading Level: M

The more children know about fires and floods, the safer they will be—that's the message of this easy-to-read science book. Exciting color photos accompany simple text that explains the dangers of these disasters—both of which can occur naturally or be started or made worse by human action—and what communities do to fight or control them. **Available as a Storia e-book**



Scholastic True or False #10: Rocks and Minerals

Melvin Berger

Ages: 5–8 **Grades:** K–2
Lexile Measure®: 780L **Pages:** 48

Are all rocks hard? Is Earth a big ball of rock? Do rocks last forever? Read the question on the right-hand page and then flip it over to find out the answer on the left-hand page! The large full-color photos of desert landscapes, steaming hot springs, and exploding lava will amaze readers. Plus, a cool bonus fact is included on every page! **Available as a Storia e-book**

National Geographic Readers: Penguins

Ann Schreiber

Ages: 6–8 **Grades:** 1–2
Pages: 32

March this way, and meet the adorable stars of National Geographic's *March of the Penguins* film! Emperor penguins are about the size of a five-year-old child—but they throw up a lot more than kids do! Find out why—and learn all kinds of other amazing facts about these incredible ice dwellers—in this fact- and photo-filled book! **Available as a Storia e-book**

Scholastic Reader Level 3: Earth in Danger

Kate Waters

Ages: 5–7 **Grades:** K–2
Lexile Measure®: 680L **Pages:** 32
Guided Reading Level: O

Scientists now agree: the Earth is getting warmer. In this fact- and photo-filled book, beginning readers will learn about the dangers and causes of climate change, and some of the possible solutions. They'll discover the latest news about earth-friendly power sources, as well as things they can do to reduce their own impact on the planet. **Available as a Storia e-book**

volcano (p. 4)	**erupt (p. 4)**
lava (p. 6)	**ash (p. 8)**
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magma (p. 14)	**pressure (p. 14)**

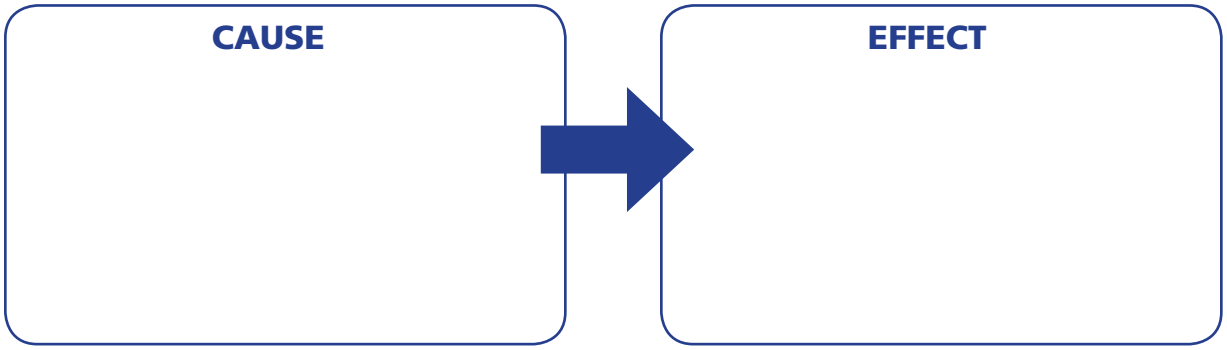
vent (p. 14)	**tectonic plate (p. 16)**
crust (p. 16)	**hot spot (p. 18)**
disaster (p. 22)	**predict (p. 24)**
evacuate (p. 24	**volcanologist (p. 26)**
measure (p. 26)	**observe (p. 26)**

Name: _____ Date: _____

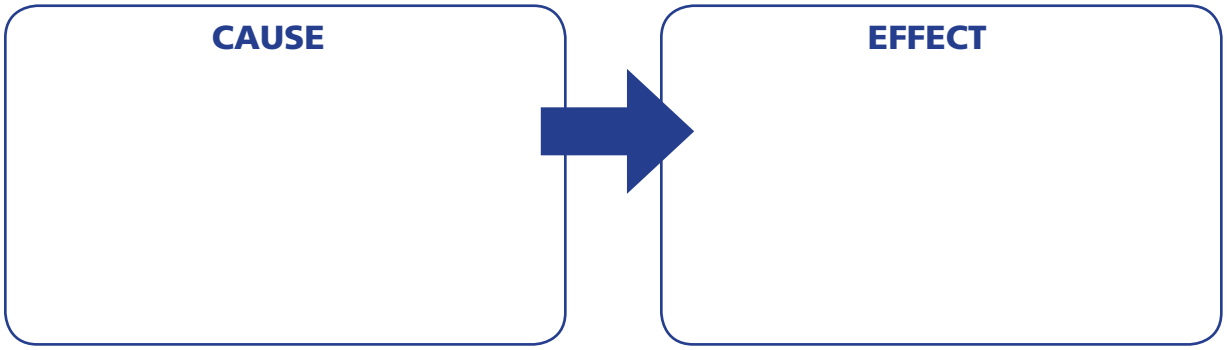
RESOURCE #2: Cause and Effect

Read each piece of text from the book. Then write the cause and the effect in the boxes.

1. "As the lava cools, it turns from a red liquid to a black solid." (p. 7)



2. "Deep inside the Earth, temperatures are so high that rock melts into a hot liquid called magma." (p. 14)



3. "All this activity inside Earth causes volcanoes to erupt around the Ring of Fire." (p. 16)