

About the Book

Text Type: Nonfiction/Informational Page Count: 18 Word Count: 684

Book Summary

Mighty Glaciers introduces readers to the formation, movement, and effects of continental and valley glaciers. It shows how glaciers can carve off mountainsides and transform them into plains of fertile soil. Photos, maps, and diagrams support the text.

About the Lesson

Targeted Reading Strategy

- Ask and answer questions


Objectives

- Ask and answer questions to understand text
- Identify the cause and effect of events
- Identify initial consonant *L*-blends
- Recognize and understand adverbs used in the text
- Locate and identify antonyms

Materials

Green text indicates resources available on the website

- Book—*Mighty Glaciers* (copy for each student)
- Chalkboard or dry erase board
- Thesauruses
- [KWL/ask and answer questions, cause and effect, adverbs, antonyms worksheets](#)
- [Discussion cards](#)

 Indicates an opportunity for students to mark in the book. (All activities may be demonstrated by projecting the book on interactive whiteboard or completed with paper and pencil if books are reused.)

Vocabulary

*Bold vocabulary words also appear in a pre-made lesson for this title on [VocabularyA-Z.com](#).

- Content words:

Story critical: **compressed** (adj.), **continental glaciers** (n.), **firn** (n.), **moraines** (n.), **till** (n.), **valley glaciers** (n.)

Enrichment: **prairies** (n.), **crevasse** (n.), **fjords** (n.), **icebergs** (n.), **recede** (v.), **snow line** (n.)

Before Reading

Build Background

- Discuss what students know about glaciers. Ask if they have ever heard of or seen the way glaciers change the face of Earth and, if so, to tell what they know about the topic.
- Create a KWL chart on the board and give students the [KWL/ask and answer questions worksheet](#). Work together to fill in the first row (*K*) with things students know about glaciers. As a group, brainstorm what students would like to know about the topic and have them fill in the second row (*W*) of their worksheet. Write some shared ideas on the class chart as an example.

Preview the Book

Introduce the Book

- Give students their copy of the book. Guide them to the front and back covers and read the title. Have students discuss what they see on the covers. Encourage them to offer ideas as to what kind of book this is (genre, text type, fiction or nonfiction, and so on), and what it might be about.
- Show students the title page. Discuss the information on the page (title of book, author's name).
- Ask students to turn to the table of contents. Remind them that the table of contents provides an overview of the book. Ask students what they expect to read about in the book based on what they see in the table of contents. (Accept all answers that students can justify.)

Introduce the Reading Strategy: **Ask and answer questions**

- Explain to students that asking questions before reading a book helps the reader to better understand the topic of a book. A reader will often answer the questions while he or she is reading the book.
- Model asking questions while looking at the table of contents.
Think-aloud: When I'd like to know more about a topic, I can use the section titles in the table of contents to think of questions I'd like to have answered by reading. For example, the second section is titled "Types of Glaciers." This title makes me wonder about the names of the types of glaciers. (Write your question in the W row of the KWL chart created during the Build Background section and invite students to add it to their KWL charts.)
- Have students share any questions they have based on the table of contents or the covers of the book. Add these to the second row (W).
- Have students preview the rest of the book. Show them the title page, photos, maps, and captions. Draw students' attention to the diagram on page 8. Encourage them to use all aspects of the book to think of questions to add to their KWL chart.
- As students read, encourage them to use other reading strategies in addition to the targeted strategy presented in this section.

Introduce the Comprehension Skill: **Cause and effect**

- Discuss cause-and-effect relationships. Explain that a *cause* is an event that makes something happen, and the *effect* is what happens because of, or as a result of, the event.
- Write the following sentence on the board: *I put on my hat.* Model identifying cause-and-effect relationships.
Think-aloud: I know that there are reasons, or causes, for events to happen. When I put on a hat, it might be because it is hot outside. The hat shades me from the sun and keeps me cool. So, a cause for putting on the hat might be because I want to stay cool. However, I also sunburn easily. Since a hat shades my face from the sun, another reason to put on a hat might be to prevent me from getting sunburned. There can be more than one cause for an effect.
- Invite students to explain other possible causes for putting on a hat (it is cold, it is windy, the hat is part of a costume, and so on).
- Retell the series of cause-and-effect relationships about the decision to wear a hat on a hot day. Ask students to identify the causes and effects. Write each cause and its effect on the chart on the board. When finished, point out how each cause-and-effect relationship leads to other cause-and-effect relationships.
- Ask students to identify from the discussion the two causes for putting on a hat (it is hot outside; to prevent sunburn). Write these under the *Cause* heading. Write *putting on a hat* under the *Effect* heading.
- To illustrate a cause-and-effect relationship from the text, have students turn to page 13. Ask what causes deep U-shaped valleys (glaciers scraping the earth as they move down mountainsides). Ask what the effect is of the glaciers scraping the mountainsides (deep valleys are formed).

Introduce the Vocabulary

- Write the words from the glossary in a list on the board. Point to each word and read it aloud. Ask students to give the thumbs-up signal if they know the word, a thumbs-to-the-side signal if they have heard the word but aren't sure what it means, and a thumbs-down signal if they have never heard the word before. Place a check mark next to words that most students know, place a question mark next to words they aren't sure about, and place an X next to any words with which most students are unfamiliar.
- Explain to students that good readers can use context clues to help figure out the meaning of an unfamiliar word in the text. However, sometimes they will not find enough context clues to clearly define the unfamiliar word. Model how students can use the glossary or a dictionary to locate a word's meaning.
- Show students the glossary. Review or explain that a glossary is an alphabetized list of words from the text with definitions. Some glossaries, such as this one, also contain page numbers that tell where in the book the reader can find each word.
- Explain that the class will focus on making sure everyone understands each word with a question mark or X marked next to it on the board. Ask students to take turns reading the glossary words and their definitions for these words. After each definition has been read, have them turn to the page in the book and find the sentence containing the word. Read the sentence aloud to confirm the definition. Also point to any photos that correspond to the words.
- Explain to students that they can also use the glossary to find the answers to some of their questions. For example, they can look at the glossary to find where in the book to go to find out more about continental glaciers. Ask students to tell which page mentions continental glaciers (page 5).
- Model how to apply word-attack strategies. Have students find the word *compressed* on page 7. Remind them that they can look at the letter the word begins with and then use what they know about syllables and vowels (one vowel sound per syllable) to sound out the rest of the word. Remind students to look for clues to the word's meaning in the sentence that contains the unfamiliar word as well as in the sentences before and after.

Set the Purpose

- Have students read the book to find answers to the questions about glaciers that they wrote in the "Want to Know" section of their KWL worksheet.


During Reading

Student Reading

- **Guide the reading:** Have students read to the end of page 10. Encourage students to look for facts about glaciers that will answer their questions on the KWL chart. If they finish before everyone else, they can go back and reread.
- When they have finished reading, have students tell what each section is about and the interesting information they have read so far. Have them circle any questions on the KWL chart that were answered and add any new questions they developed.
- Model answering a question on the KWL chart on the board.
Think-aloud: *I wanted to know the names of the different types of glaciers. On page 5, I read that there are two common types of glaciers: continental glaciers and valley glaciers. (Write what you learned in the last row (L) of the KWL chart and tell students to fill in their own chart.)*
- Have students share questions they found the answers to while reading. Record their responses on the KWL chart on the board.



Have students read the remainder of the book. Remind them to look for answers to the other questions on their KWL chart and to think of other questions to add to it. Have them write down any questions they have in the *W* row of their KWL chart and to underline in their book any information that answers a question on the KWL chart.

-  Have students make a question mark in their book beside any word they do not understand or cannot pronounce. Encourage them to use the strategies they have learned to read each word and figure out its meaning.


After Reading

- Ask students what words, if any, they marked in their book. Use this opportunity to model how they can read these words using decoding strategies and context clues.

Reflect on the Reading Strategy

- Have students share any other questions they had while they were reading. Discuss how asking questions and looking for the answers as they read keeps them actively involved in the reading process and helps them understand and remember what they read.
- **Think-aloud:** *I wanted to know why glaciers have big cracks. On page 10, I read that these cracks are called crevasses, and I underlined the sentence before the word because it tells me why crevasses form. I can write this information in the last row (L) of the KWL chart. (Write the information on the KWL chart on the board and have students fill in their own chart.)*
- **Independent practice:** Have students complete the KWL worksheet. Then have them look back at what they underlined in the text and add their answers to the L section of the KWL worksheet. If time allows, discuss their answers.

Reflect on the Comprehension Skill

- **Discussion:** Discuss cause-and-effect relationships. Remind students that a *cause* is an event that makes something happen, and the *effect* is what happens because of, or as the result of, the event.
-  **Check for understanding:** Have students review the text to find and circle the cause of a crevasse forming (the top layers of ice moving faster than the bottom layers). Allow time for students to share their findings. Ask what the effect is of the top layers moving faster than the bottom layers (the ice cracks).
- **Independent practice:** Hand out the [cause-and-effect worksheet](#). Have students write on their worksheet the cause and effect of a crevasse as discussed above. Have them practice on their own identifying cause-and-effect relationships by completing the cause-and-effect worksheet. When they have finished, have students discuss their work and explain their answers with references to the text.
- **Enduring understanding:** Ask students what they think will happen as Earth's temperature continues to get warmer. How might that affect the glaciers and the levels of the oceans and seas? Ask what they think might be done to stop global warming.

Build Skills

Phonics: Initial consonant L-blends

- Write the word *glacier* on the board. Ask a student to tell you the sound he or she hears at the beginning of the word. Point to the letters *gl* on the board and explain that the letters *g* and *l* together stand for the blended /gl/ sound they hear at the beginning of the word *glacier*.
- Explain that the word *glacier* starts with the /gl/ sound, which is one of the blended sounds in a group of sounds called *initial consonant L-blends*. Explain that in a blend, two or three consonants are grouped together in a word, each letter keeping its own sound. Explain to students that the /bl/ sound is another initial consonant L-blend. Ask students for an example of a word beginning with the /bl/ sound (*blue*, *black*, and so on).
- **Check for understanding:** Write the words *blow*, *clean*, *flew*, *glue*, and *slide* on the board. Ask students to volunteer to come up and circle the initial consonant L-blend in each word.
- **Independent practice:** Have students locate other words containing an initial consonant L-blend in the text and circle the word. If time allows, discuss their answers.

Grammar and Mechanics: Adverbs

- Review or explain that *adverbs* are words that describe or modify verbs or adjectives. Adverbs express the *time*, *manner*, or *degree* in which the action of a verb occurs—how something happens. They may also tell *how often*, *how many*, or *how much*.
- Write the question *How?* on the board. Have students turn to page 4, and read the sentence aloud: *Glaciers move slowly over the land.* Ask students how glaciers move (slowly). Explain that *slowly* is an adverb that describes the verb *move*. Ask students what the root or base word of *slowly* is (*slow*). Explain that many adverbs are formed by adding *-ly* to the end of a word.
- Have students turn to page 7, and read the sentence aloud: *Snow piles up much faster than it melts.* Ask students how the snow piles up (faster). Explain that *faster* is an adverb that describes the verb *piles up*. Remind students that most, but not all, adverbs end in *-ly*.
- Write the words *sad*, *quick*, and *glad* on the board. Have student volunteers come up to the board and add *-ly* to each root or base word and then use the resulting adverb in an oral sentence.



Check for understanding: Have students work in pairs to go through the book and underline all of the adverbs they find. Discuss their findings as a group, identifying the verb or adjective that each adverb describes.

- **Independent practice:** Introduce, explain, and have students complete the [adverbs worksheet](#). If time allows, discuss their answers.

Word Work: Antonyms

- Write the word *cold* on the board. Ask students to suggest a word that means the opposite of *cold* (*hot*, *warm*). Review or explain that a word that means the opposite of another word is called an *antonym*.
- Have students turn to page 10 and reread the fourth sentence: *Sometimes, the top layers of ice move faster than the bottom layers.* Ask them to find the two words that are antonyms in this sentence (*top*, *bottom*).
- Ask students to find the word *heavy* on page 10. Ask them to suggest antonyms for *heavy*. Write the antonyms on the board.
- Give pairs of students a thesaurus. Explain that although their thesaurus lists examples of antonyms, not all thesauruses include antonyms; some only list synonyms, or words that mean the same. Use the example above to explain how a thesaurus is used, writing the antonyms listed for *heavy* on the board. Point out that after the entry for *heavy*, first the synonyms (SYN) are listed and then the antonyms (ANT).
- Ask students to find the word *huge* in the thesaurus and name the antonyms listed. If needed, provide additional practice using a thesaurus.
- **Check for understanding:** Have students identify, in the thesaurus or in the book, antonyms for the words *fast* (page 11), *steep* (page 13), and *narrow* (page 6). If time allows, discuss their answers.
- **Independent practice:** Introduce, explain, and have students complete the [antonyms worksheet](#). If time allows, discuss their answers.

Build Fluency
Independent Reading

- Allow students to read their book independently. Additionally, allow partners to take turns reading parts of the book to each other.

Home Connection

- Give students their book to take home to read with parents, caregivers, siblings, or friends. Have students explain to someone at home the questions they had about glaciers and what they learned.

Extend the Reading

Informational Writing Connection

Have students write their own sequential explanation of how glaciers grow or how glaciers move. (Allow them to choose one of these topics.) Have students identify the cause-and-effect relationships in each step of the developmental sequence.

Visit [Writing A–Z](#) for a lesson and leveled materials on expository writing.

Elements of Nonfiction Connection

Discuss with students the diagrams on pages 8 and 11. Invite students to reflect on the information in each diagram. As a class, discuss the purpose of incorporating diagrams into text and the importance of the information (to provide clarification; to illustrate the meaning of the text). Ask students what other type of diagram might help explain the text. Have students create a diagram to explain the text on page 15.

Skill Review

[Discussion cards](#) covering comprehension skills and strategies not explicitly taught with the book are provided as an extension activity. The following is a list of some ways these cards can be used with students:

- Use as discussion starters for literature circles.
- Have students choose one or more cards and write a response, either as an essay or as a journal entry.
- Distribute before reading the book and have students use one of the questions as a purpose for reading.
- Cut apart and use the cards as game cards with a board game.
- Conduct a class discussion as a review before the book quiz.

Assessment

Monitor students to determine if they can:

- consistently ask relevant questions about the topic prior to and during reading; locate answers to questions in the text
- accurately recognize and explain cause-and-effect relationships
- correctly identify initial consonant *L*-blends in the text and use them in writing
- correctly recognize and understand the use of adverbs in the text
- accurately identify antonyms in the text and in a thesaurus

Comprehension Checks

- [Book Quiz](#)
- [Retelling Rubric](#)