

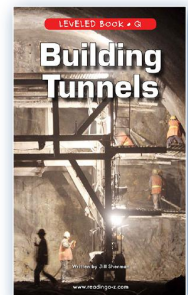
Focus Question:

How and why are tunnels created?

Book Summary

Text Type: Nonfiction/Descriptive

Tunnels help to move people and goods all around the globe. Through evolving technology, tunnels are becoming increasingly effective, advanced, and amazing. *Building Tunnels* introduces students to the technology behind building various kinds of tunnels, including tunnels created in soft earth and even under water. The book can also be used to teach students how to identify cause-and-effect relationships and prepositions.



Lesson Essentials

Instructional Focus

- ☐ Ask and answer questions to understand text
- ☐ Identify cause-and-effect relationships
- ☐ Describe information provided by graphics
- ☐ Recognize and use prepositions
- ☐ Identify and use homophones

Materials

- ☐ Book: *Building Tunnels* (copy for each student)
- ☐ KWLS / ask and answer questions, cause-and-effect, prepositions, homophones worksheets
- ☐ Discussion cards
- ☐ Book quiz
- ☐ Retelling rubric

Vocabulary

Boldface vocabulary words also appear in a pre-made lesson for this title on VocabularyA-Z.com.

• Words to Know

Story critical: *collapse* (v.), *explosives* (n.), *line* (v.), *sealed* (v.), *stable* (adj.), *trench* (n.)

Enrichment: *boring* (adj.), *dynamite* (n.), *engineers* (n.), *muck* (n.), *obstacles* (n.), *technology* (n.)

- **Academic vocabulary:** *allow* (v.), *design* (v.), *information* (n.), *support* (v.), *through* (prep.), *type* (n.)

Guiding the Reading

Before Reading

Build Background

Create a KWLS chart on the board. Introduce and explain the **KWLS / ask-and-answer-questions worksheet**. Review or explain that the *K* stands for knowledge we know about a topic, the *W* stands for information we want to know, the *L* stands for information we learned, and the *S* stands for what we still want to know. Have students work independently to complete the *K* section of the chart with their prior knowledge about tunnels and how they are built. Have students share their prior knowledge in small groups. Invite several volunteers to share their prior knowledge about tunnels.

Introduce the Book

- Give students their copy of *Building Tunnels*. 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 type of book it is (genre, text type, and so on) and what it might be about.
- Show students the title page. Discuss the information on the page (title of book and author's name).
- Preview the table of contents on page 3. Remind students that the table of contents provides an overview of the book. Ask students what they expect to read about in the book, on the basis of 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 engaged readers pause to ask and answer questions about the text in order to better understand and enjoy what they are reading. Invite students to review the table of contents on page 3 and use the section titles to develop questions about building tunnels. Have them add any additional questions to the *W* section of the KWLS / ask-and-answer-questions worksheet. Record shared questions on the class KWLS chart.



Guiding the Reading (cont.)

Introduce the Comprehension Skill:

Cause and effect

- Discuss cause-and-effect relationships. Explain that a *cause* is an action or event that makes something happen and the *effect* is what happens because of, or as a result of, the action or event.
- Explain to students that there can be more than one effect from a cause. Create a two-column chart on the board with the headings *Cause* and *Effect*. Under the *Cause* heading write *The bottom of my grocery bag broke*. Invite volunteers to offer examples of the effects of having the bag break, such as all of the eggs cracked or the apples rolled away. Record this information on the board. Point out that the effect of the broken bag may then also be the cause of another event. Share the following example: *The bottom of my grocery bag broke, causing all of the eggs to crack when they hit the ground. Because all of the eggs broke, I could not bake the birthday cake for my sister*. Explain that cause-and-effect relationships can lead to a chain of events.
- Place students into small groups, and provide each group with several sheets of colorful construction paper and glue sticks. Explain to students that each group will be creating a cause-and-effect chain. Have students cut thin strips of paper. Provide them with the following prompt, and have them record it on a strip of construction paper: *I lost my backpack*. On a separate sheet of paper, have each group record the effect of losing a backpack, such as *I didn't have my homework*. Show students how to form each strip of paper into a circle and then glue them together as a chain. Next, have students record the effect of not having homework on a new strip of paper and connect it to the chain. Have students complete at least five links in the chain, and then invite each group to share with the class.

Vocabulary

Have students turn to the "Words to Know" box on the copyright page. Discuss each word with students. Then, have students turn to the glossary on page 16. Explain that the glossary provides definitions for the vocabulary words in the book. Point out the use of each content word and academic vocabulary word in the book, and then use each word in a different model sentence. Have students work in groups to create posters for these words. Have them include on each poster the word and its part of speech, the definition, the word in an example sentence, and a picture illustrating the meaning of the word.

Set the Purpose

- Have students read to find out more about building tunnels. Write the Focus Question on the board. Invite students to look for evidence in the book to support their answer to the question.

- Have students make a small question mark in their book beside any word they do not understand or cannot pronounce. These can be addressed in a future discussion.

During Reading

Text-Dependent Questions

As students read the book, monitor their understanding with the following questions. Encourage students to support their answers by citing evidence from the book.

- *In what way did the creation of dynamite impact the building of tunnels?* (level 1) page 5
- *What are the three basic steps of building a tunnel?* (level 1) page 7
- *What is the process of building a tunnel through solid rock?* (level 2) pages 8–11
- *Why is building a tunnel in soft earth dangerous?* (level 1) pages 9 and 10
- *How are the processes of building tunnels through solid rock, soft earth, and under water the same? How are these processes different?* (level 2) multiple pages
- *How do tunnels help move people and goods each day all around the globe?* (level 3) multiple pages
- *How has building tunnels become less dangerous?* (level 3) multiple pages

Text Features: Maps

Have students locate the map on page 3. Ask a volunteer to explain what information the author is conveying through this map. Point out that such features are often present in nonfiction books to help the reader understand the text. Have students locate the compass on the map, and explain that a compass shows the cardinal directions: north, south, east, and west. Have students discuss the following questions with a partner: *On which continent is the Channel Tunnel located? Which two tunnels are southeast of the Channel Tunnel?*

Skill Review

- Model for students how to answer questions on the KWLS chart using details from the text. Have students discuss what they learned about building tunnels in each section. As they read, have students write the answers to their questions in the *L* section of their worksheet. Ask students to share with the class what they added. Invite students to fill in the *S* section of the worksheet with the information they would still like to know about building tunnels. Discuss with students what resources they could use to find answers to these lingering questions.
- Model evaluating details to understand cause-and-effect relationships in the book.
Think-aloud: *This book is providing me with information about how different types of tunnels are built. Throughout the book, I am able to identify cause-and-effect relationships. For example, on*

Guiding the Reading (cont.)

page 5, the author explains that dynamite was easier and safer to use than other explosives at the time. Because of this, dynamite was used to blast through rocks and create tunnels more quickly, which in turn led to more tunnels being built. The effect of more tunnels being built was that more people and goods could be moved more easily.

- Record the cause-and-effect relationship identified in the Think-aloud in the chart on the board. Ask students the effect of having tunnels being created more quickly and in greater numbers.
- Model how to complete the **cause-and-effect worksheet**. Have students identify details from the book and circle them. Then, have students discuss the details with a partner and determine their effects. Have students record this information on their worksheet.

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.

Skill Review

Graphic Organizer: Cause and effect

Review the cause-and-effect worksheet that students completed. Have students share their work in groups.

Comprehension Extension

Discussion cards covering comprehension skills and strategies not explicitly taught with the book are provided to be used for extension activities.

Response to Focus Question

Have students cite specific evidence from the book to answer the Focus Question. (Answers will vary. Example: *Tunnels are created to help people and goods get from one place to another easily. Tunnels are built through solid rock, soft earth, and even under water. There are three basic steps involved in building any tunnel: digging, supporting, and building a lining.*)

Comprehension Checks

- Book quiz
- Retelling rubric

Book Extension Activities

Build Skills

Grammar and Mechanics: Prepositions

- Explain to students that *prepositions* are words that show a relationship between things. Discuss how they provide information about *where, when, how, why, and with what* something happens. Write the following sentence on the board: *The workers dig through the rock.* Explain that the word *through*

provides information about where the workers dig: *through the rock.*

- Write the following sentence on the board: *Today, workers have carved tunnels through rock mountains, under large bodies of water, and below busy cities.* Circle the word *below*, and explain to students that it is a preposition because it describes where the workers are carving tunnels in relationship to the cities. Invite volunteers to the board to identify and circle the remaining prepositions in the sentence (*through, under*), and have them state whether each preposition describes *where, when, how, why, or with what*.
- Check for understanding:** Have students work with a partner to reread pages 7 through 9. Have them circle all the prepositions and, in the margin of the book, record whether each one describes *where, when, how, why, or with what*. Invite students to share their responses with the class.
- Independent practice:** Introduce, explain, and have students complete the **prepositions worksheet**. If time allows, discuss their answers.

Word Work: Homophones

- Have students turn to page 4 and follow along as you read the last sentence of the first paragraph: *Both options were difficult—until someone decided to go through!* Write the word *through* on the board, and invite a volunteer to provide a definition. Write the word *threw* on the board, and invite a volunteer to provide a definition. Ask students how the words *through* and *threw* are the same and different (*they sound the same but have different spellings and different meanings*).
- Explain or review that words that sound the same but are spelled differently and have different meanings are called *homophones*. Write the word *homophones* on the board, and have students say it aloud while clapping out the syllables.
- Have students turn to page 7 and locate the caption at the top of the photograph. Write the word *road* on the board, and have students offer a definition. Ask students to think of another word that sounds the same but is spelled differently and has a different meaning from the word *road*. Write the word *rode* on the board, and have students offer a definition and use the homophone in a complete sentence.
- Check for understanding:** Have students work with a partner to reread pages 4 and 5 to identify at least three homophones. Have students turn to a partner and discuss a homophone for each word and the meaning of each homophone.
- Independent practice:** Introduce, explain, and have students complete the **homophones worksheet**. If time allows, discuss their answers.

Connections

- See the back of the book for cross-curricular extension ideas.