

UNIT 25 OPENER

▶ Preteach: Instructional Terms

Nonfiction texts contain information about real-life subjects. These texts provide facts about different topics, explain how things work, and show how to perform actions or tasks. **Ask: What is something you wanted to learn about recently? What resources did you use?** Explain to students that these resources are nonfiction texts.

Reference resources are one type of nonfiction text that readers use for research.

Emphasize that the **main idea** is the most important idea in a passage. **Details** are sentences that support or tell more about the main idea. A sentence that clearly states the main idea is called the topic sentence. However, when the main idea remains unstated, readers can use details to find the main idea.

On the board, write the following passage:

Gravity is one of the most important forces on Earth. Gravity keeps the water in the oceans, and lakes, and rivers in place. It allows the water cycle to occur. Gravity is also the primary force keeping the Moon in orbit around Earth and the Earth in orbit around the Sun. Without gravity, life as we know it would not exist on our planet.

Highlight the first sentence of the passage. Explain that this sentence tells the main idea of the passage, and then erase the sentence. Tell students that the meaning of the passage has not changed. However, now a reader needs to look at the details to determine the passage's main idea.

A **K-W-L chart** will help students understand nonfiction texts. To activate prior knowledge and set a purpose for reading, students fill in the K (What I Know) and W (What I Want to Know) columns before reading. Students fill in the L (What I Learned) column after reading.

A glossary includes the meaning of a word as it is used in a particular text, but a dictionary provides all of a word's meanings. Point out that a dictionary will always contain more complete information for a term than a glossary will. Select a multiple-meaning word from a textbook glossary. On the board, write the word with its definition. Have students find the word's entry in a dictionary. **Ask: Why does the glossary omit additional meanings of the word?**

▶ Scope and Sequence at a Glance

Genre: Informational Text (Encyclopedia entry)

Title: Riding the Air: The Physics of Skateboarding

Cross-Curricular Connection: Science

Comprehension Strategy: K-W-L Chart

Comprehension Skill: Main Idea and Detail

Vocabulary Strategy: Dictionary and Glossary (Multiple-Meaning Words)

Decoding Support: Stress in 2-Syllable Homographs

▶ Summary of Reading Passage

Riding the Air: The Physics of Skateboarding

This selection covers professional skateboarder Elissa Steamer and the ways in which forces, friction, and gravity affect her and other skateboarders.

Lexile: 870

Word Count: 850



UNIT 25 OPENER (CONT.)

 **Learner Vocabulary**

Introduce the lesson's vocabulary words by reading the following sentences aloud. After you read each sentence, repeat the vocabulary word, and read its definition.

exert Verb. (1) Make an effort. (2) Apply, put forth.

- (1) Jose is successful because he **exerts** himself in every activity.
- (2) The principal **exerts** her influence over many of the teachers.

friction Noun. (1) Force that resists motion as objects rub together.

- (2) Rubbing together. (3) Disagreement.
- (1) The **friction** of tires against pavement causes a car to slow down.
- (2) When Josh slid down the rough rope, the **friction** made his skin feel hot.
- (3) After the argument, there was a lot of **friction** among teammates.

horizontal Adjective. Parallel to the ground or horizon; opposite of vertical. Jing Mae performed her gymnastics routine on the **horizontal** balance beam.

physics Noun. In science, the study of energy and matter. Jared is majoring in **physics** so he can become an astronomer.

rotate Verb. (1) Repeatedly turn in a circle. (2) Do something in a sequence or repeated pattern.

- (1) It takes 24 hours for Earth to **rotate** on its axis one full turn.
- (2) Mrs. Acuna **rotates** class jobs to make sure all students get a turn.

routine Noun. (1) Performance that is practiced and repeated. (2) Usual, repeated way of doing things. Adjective. (3) Normal or usual.

- (1) Amber's athletic dance **routine** delighted the audience.
- (2) My Saturday **routine** includes sleeping in and then helping with chores.
- (3) Each year we take Shasta to the vet for his routine checkup.

sole Adjective. (1) Only; alone. Noun. (2) Bottom part of the foot. (3) Bottom part of a shoe. (4) Kind of ocean flatfish.

- (1) I was the **sole** hiker who made it to the top of the mountain.
- (2) A rusty nail punctured the tender **sole** of my bare foot.
- (3) Ben could feel the freezing snow through the **soles** of his boots.
- (4) The restaurant specializes in seafood, especially sole.

stunt Noun. (1) Daring act or performance. (2) Act performed to show off or get attention. Verb. (3) Stop or slow the growth of.

- (1) The acrobat fell from her swing into a net during the dangerous **stunt**.
- (2) "Don't pull any **stunts** on that new bike," Dad warned.
- (3) Lack of sunlight will severely **stunt** these tomato plants.

 **Quick Connect Activities**

On the board, write the following terms: *pronunciation, definition, history, origins, locations, distances, roadways, instructions.*

Ask students to indicate in which reference text these types of information may be found. Point out that some information may be found in more than one type of reference.

 **Destination Journal**

Have students answer these questions in their journals: **What is your favorite sport? In what ways do you think science and your favorite sport are related?**

 **Book Lists****Books with Related Themes**

Students who are fascinated by sports may find these books intriguing.

***Extreme Sports* by Richard Platt. 2001. DK Publishing.** (Below-level students.) This book describes extreme sports such as steep skiing and freestyle motocross. *LEXILE: 820*

***Girls Got Game: Sports Stories and Poems* by Sue Macy. 2001. Henry Holt and Company.** (On-level students.) This book contains a collection of short stories and poems written by and about young women in sports. *LEXILE: 850*

***Energy at the Sports Arena* by Greg Banks. 2005. National Geographic Society.** (Above-level students.) This book discusses energy and how it works in sports and the sports arena. *LEXILE: 920*



LESSON 1 PLANNER

 Genre Study

Assess students' prior knowledge of nonfiction by asking what kinds of nonfiction they have read. **Ask: Why might someone want to read a nonfiction book?** Students may respond that nonfiction is useful when performing research. Explain that nonfiction provides facts and information on many topics, tells how things work, and shows how to perform various tasks.

Point out that nonfiction texts are typically structured differently than fiction texts and often include the following features:

- Headings
- Diagrams
- Pictures with captions
- Lists
- Steps

Ask: What types of texts would you use to research a topic?

Students' responses may include the Internet, encyclopedias, or atlases. Inform students that dictionaries, encyclopedias, atlases, gazetteers, and instruction manuals are types of nonfiction called **reference resources**.

 Build Background

The subject of this video in the courseware is gravity as demonstrated through skateboarding and use of ramps. Assess students' prior knowledge of the subject. **Ask: Do you know anyone who skateboards? Have you ever watched skateboarders? Do they look as though they can fly? Why do skateboarders use ramps?**

In the video, skateboarding is used to illustrate gravity and its effects. **Ask: In what other sports do athletes appear to defy gravity?**

Explain to students that gravity is constantly pulling us toward Earth. Point out that gravity allows people to live and travel on Earth's surface and allows Earth to maintain its orbit around the Sun.

 Learning Objectives

- Recognize distinguishing features of informational texts, including an encyclopedia entry.
- Recognize the author's purpose in writing informational texts, including an encyclopedia entry.
- Learn the meanings of grade-level and content vocabulary words in context.
- Use a dictionary to determine definitions of multiple-meaning words with two dictionary entries.
- Write context sentences for multiple-meaning words and grade-level vocabulary to complete dictionary entries.

 QuickFact: Skateboarding History

Skateboarding began in the 1940s and 1950s. Early skateboards ranged from roller-skates attached to miniature surfboards to scooters with the handlebars taken off. It wasn't until the 1960s that the first commercial skateboard was marketed in the United States. As the sport's popularity increased, board designs changed to include a tail. The use of more reliable and durable materials and improved protective gear also helped make skateboarding safer. Thanks to sporting events such as local competitions and the X Games, skateboarding has become a popular sport the world over.



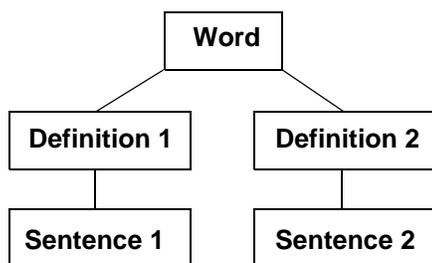
▶ Vocabulary Strategy: Dictionary/Glossary and Multiple-Meaning Words

Students learn that some words have more than one meaning. A glossary entry for a multiple-meaning word will usually list the word's meaning only as it applies to the text, allowing the reader to focus on the author's intended use of the word. A dictionary, on the other hand, provides all known definitions of a word.

A dictionary will allow students to find all meanings of a word, but may not indicate which meaning the author is using. Explain to students that context clues will help them determine the intended definition of a multiple-meaning word.

▶ Differentiated Instruction

ELL: Provide students with note cards and have them draw a chart like the one below on each card. Tell students to write a vocabulary word in the top box of the chart. Students should then write the definitions in the boxes directly below that box. Tell students to write a sentence using context clues to indicate the word's meaning. Allow students to refer to these note cards for clarification.



Special Needs: On the board, write ten sentences that contain underlined multiple-meaning words and context clues. Provide students with a list of the words and their definitions. Have students work in pairs to identify the intended meaning of the underlined words. Remind students to use context clues to determine the correct meaning.

Above-level Students: Challenge students to write a short passage containing five multiple-meaning words other than those found in this unit. Students must include context clues that indicate each word's intended meaning.

▶ Quick Connect Activities

Have students write the answers to these questions: What are multiple-meaning words? If you don't have a dictionary available, how can you determine a word's intended meaning?



▶ Destination Journal

Have students answer these questions in their journals: **Other than sports, what activities or events seem to defy gravity? Why is it important to understand the ways in which gravity affects us?**

▶ Lesson Resources: Assessment Toolkit

Check the **Practice** and **Apply** activities in this lesson for results you can assess.

Before students take the lesson tests provided in the courseware, check their confidence in the skills:

- Provide students with highlighters or colored pencils and photocopies of an encyclopedia page. Have students circle features associated with nonfiction texts.
- Organize students in small groups, and have them use a dictionary to find from three to five multiple-meaning words. Ask students to write sentences containing context clues and the selected words. Have groups exchange sentences and use the context clues to figure out word meanings.

LESSON 2 PLANNER

▶ Comprehension Skill: Main Idea and Detail

Students are told that a **main idea** is the most important idea in a paragraph or passage. When the main idea is stated directly in a sentence, that sentence may be called the topic sentence. A topic sentence may appear at the beginning, in the middle, or at the end of a paragraph or passage. Explain to students that when looking for the main idea of a longer passage, a reader must think about the ideas presented in several paragraphs.

Main ideas are not always stated, however. To determine unstated main ideas, a reader must study the **details** provided. Details support or provide additional information about the main idea. Details can prove a point, explain the steps in a process, or provide examples. When using reference resources or other forms of nonfiction, readers can use headings and subheadings to help them identify a main idea.

▶ Comprehension Strategy: K-W-L Chart

To help students increase their comprehension of a text, they learn to create a K-W-L chart, which consists of three columns.

- First column labeled K—what I know
- Second column labeled W—what I want to know
- Third column labeled L—what I learned

Students learn to fill in the first two columns before reading. Doing so helps them access prior knowledge and set a purpose for reading. Then, as students read, they look for the answers to their questions and fill in the final column when they have finished reading.

▶ Differentiated Instruction

ELL: Invite students to create a K-W-L chart for a chapter from the textbook of their favorite school subject. Review with students the ways in which the chart helps them understand what they have read.

Special Needs: Provide small groups with short nonfiction passages that contain a clearly stated main idea. Have students circle the main idea in one color and the details in another. Ask students to write why they chose a particular main idea.

Above-level Students: Challenge students to use unstated main ideas in a one-page report on their favorite sports figure, author, or musician. Allow students to use school-approved Web sites and reference materials. Then have student partners exchange papers and determine the main idea of each report.

▶ Learning Objectives

- Recognize main idea and details in an encyclopedia entry.
- Identify stated and unstated main ideas in an encyclopedia entry.
- Identify details that support unstated and stated main ideas in an encyclopedia entry.
- Recognize that the purpose of using a K-W-L chart is to improve reading comprehension.
- Determine information to record in the K and W columns of a K-W-L chart.

▶ Assessment: Toolkit

Check the **Practice** activities in this lesson for results you can assess.

Before students take the lesson tests provided in the courseware, check their confidence in the skills:

- Have students work in small groups to read an encyclopedia entry on a science-related topic. Ask students to write the main idea of the text and to indicate whether it is stated or unstated.
- Provide students with a short nonfiction passage, and have them create a K-W-L chart for it. Remind students that they need to fill in the K and W columns before reading and the L column after reading.

LESSON 3 PLANNER

Lesson 3: Summary and Journal Writing

 Story Summary

This nonfiction text is a chapter from a science textbook. It explains the physics of skateboarding. It does this by showing the science involved with Elissa Steamer's amazing routines. Elissa is the first women's gold medal skateboarding winner in the X Games. Elissa awes the crowd as she seems to break every law of physics with her kick-flips and mid-air 180-degree turn.

The science of skateboarding is explained through the description of a skateboarding technique called the ollie. The basis of hundreds of tricks, the ollie involves force, friction, and gravity. When the force is greater on the tail of the board than on the front, it takes the skateboarder upward, and gravity brings the skateboarder back down. Force also keeps the board against the skateboarder's feet. Friction allows the skateboarder to direct the control of the board.

After mastering the ollie, a skateboarder can move on to other, more difficult tricks, such as a 180. A 180 is a mid-air half-circle turn. The text compares the athlete's preparation for a 180 to "twisting the key on a windup toy." The athlete creates torque by rotating her body in the opposite direction of the intended turn. Torque and friction allow the skateboarder and the board to complete the turn.

Skateboarders subject themselves to intense forces, including gravity, torque, and friction. When mistakes happen, they are painful, but mistakes and injuries do not deter these dedicated athletes from their interest in skateboarding.

 Destination Journal

Ask students to write a journal entry on this topic: **In the text you read that Elissa has "fractured both hands while skating, and she once broke her teeth on the pavement." Despite these injuries, Elissa continues skateboarding. Do you know people who are not easily deterred from their interests and goals? Why do you think these people continue to try to achieve their goals or pursue their interests even when faced with challenges, impossible odds, and even failure?**

 Learning Objectives

- Read a reference source to build vocabulary, fluency, and comprehension.
- Locate information while reading an encyclopedia entry to later complete a K-W-L chart.
- Identify stated and unstated main ideas and supporting details while reading an encyclopedia entry.
- Use a dictionary to determine definitions of multiple-meaning words with two different entries while reading an encyclopedia entry.
- Demonstrate comprehension of an encyclopedia entry.

 Assessment: Toolkit

Use the *Comprehension Quiz* to assess students' understanding of the courseware.

Before students take the lesson tests provided in the courseware, check their confidence in the skills:

- After students have read the text, ask them to write the main ideas of the individual paragraphs and the supporting details for each. On the basis of this information, have students write the main idea of the passage.
- Have students write down the multiple-meaning words from the passage. Then direct students to write two sentences for each word. The sentences should include context clues and reflect both meanings of the word.

LESSON 4 PLANNER

Lesson 4: Comprehension Skill and Strategy

 **Comprehension Skill: Main Idea and Detail**

Remind students that the **main idea** is the most important idea in a reading selection. A sentence that states the main idea is called the **topic sentence**. **Details** support or tell more about the main idea.

Details can

- prove a point.
- give examples.
- explain the steps in a process.
- show how ideas are related.

When determining the main idea of a passage, the reader must think about the content of several paragraphs. In some forms of nonfiction, **headings** and **subheadings** are clues to the main idea in each section of text. **Ask: Where else in a nonfiction text might you find the main idea?** Emphasize that the main idea can be stated in a sentence; near the beginning, middle, or end of the selection; or may remain unstated. Readers must study the details provided to determine an unstated main idea.

 **Comprehension Strategy: K-W-L Chart**

Review the K-W-L chart system with students. After students read the passage, ask them what they know about the X Games. Record this information on the board in the K section of a chart. Then, ask students what they still want to know about the X Games. Record these questions in the W section of the chart. Discuss with students which kinds of texts they might consult to find answers for the L section of the chart.

 **Differentiated Instruction**

ELL: Ask students to compare nonfiction texts in their primary language with what they know about nonfiction texts in English.

Special Needs: Provide students with photographs of several skateboarding stunts from school-approved Web sites to help them complete the K section of their charts.

Above-level Students: In small groups, have students discuss what to do if a question in the W section of the K-W-L chart is not answered in the reading. Also, have them discuss what to do if additional questions occur as they read.

 **Learning Objectives**

- Distinguish between unstated and stated main ideas in an encyclopedia entry.
- Complete the L column of a K-W-L chart after reading an encyclopedia entry.
- Evaluate the usefulness of a K-W-L chart to increase comprehension.

 **Assessment: Toolkit**

Check the **Practice** and **Apply** activities in this lesson for results you can assess.

Before students take the lesson tests provided in the courseware, check their confidence in the skills:

- Have each student select a topic. Ask students to use an encyclopedia to learn more about the selected topic. Ask them to discuss with one another whether the main idea of the encyclopedia entry is stated or unstated.
- Have students write an evaluation of how the K-W-L chart has helped them. They can include topics such as reading comprehension and general learning as well.



UNIT 25: Riding the Air: The Physics of Skateboarding

Name: _____ Date: _____

 **Comprehension Strategy: Using a K-W-L Chart**

Directions: You have learned how to use a **K-W-L** chart as an aid to understanding informational text. As you read, use the K-W-L chart below. Write what you **K**now about the subject of the text in the first column. In the second column, write what you **W**ant to know. When you have finished reading the text, write in the third column what you have **L**earned.

What I Know	What I Want to Know	What I Learned