

UNIT 02 OPENER

▶ Preteach: Instructional Terms

An **informational text** provides true information about a subject, explains how something works, or provides directions for the proper way to do something. Such texts are structured differently from fiction, featuring headings, diagrams, captions, lists, steps, and so on.

A **science fiction** story addresses the impact of actual, imagined, or potential technology or science on living beings and their environments. Authors generally use laws or theories of science that are partially true and partially fiction. Such stories are often set in the future, in space, in a different universe, or in a different world. **Say:** **Name a TV show or movie that you have seen that is set in outer space. Explain how this movie compares with your real life.**

Authors write for different purposes. An **author's purpose** may be to inform, to persuade, to entertain, or to describe or explain. The author of an informational text may write to inform, describe, or explain. The author of a science fiction story usually writes to entertain. Give students the following examples, and ask them to identify the author's purpose for writing:

- Venus and Mercury are near the Sun.
- Knock, knock. Who's there? Orange. Orange who? Orange you glad that you don't live on Venus?

Explain to students that one strategy for reading informational texts is to use a **K-W-L Chart**. Before reading, students should write what they know about a subject as well as questions that they have about the subject. As students read, they can record answers to their questions. **Ask: What do you know about Mars? What do you want to know about Mars? What kind of text will you read to find answers to your questions?**

Students can use their knowledge of base words and **suffixes** to determine the meaning of unfamiliar words. **Say: The suffix *-ment* means "act of," "condition of," or "product of." What does *improvement* mean?**

▶ Summary of Primary Reading Passage

Mars: Where No Man Has Gone Before

Scientists use robots equipped with such tools as cameras, magnets, and hammers to explore Mars. The robots collect samples and take pictures so that scientists may learn about the red planet. One of the most exciting discoveries is that there may have been water on Mars, which suggests that the planet is capable of supporting life.

Lexile: 680

Word Count: 505

▶ Scope and Sequence at a Glance

Genre: Informational Text (Magazine Article)

Title: Mars: Where No Man Has Gone Before and Give Me Stronger Gravity!

Cross-Curricular Connection: Technology

Comprehension Strategy: Use K-W-L

Comprehension Skill: Understand Author's Purpose

Vocabulary Strategy: Word Structure (Suffixes)

Decoding Support: Chunking-Suffixes on Base Words

▶ Summary of Secondary Reading Passage

Give Me Stronger Gravity!

In this futuristic story, students from Mars travel via space shuttle to an asteroid, where they will compete in a song contest with students from other colonies. The Martian students are eager to win the prize, a trip to Earth. Earth was the original home of the students' ancestors, but the Martian students have never visited Earth.

Lexile: 640

Word Count: 590



UNIT 02 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. Also, point out how students can use their knowledge of the suffix -ment to decode unfamiliar vocabulary words.

astronaut Noun. Person trained for travel in space.

Twelve **astronauts** have landed and walked on the Moon.

data Noun. Facts or information.

She gathered **data** from five different sources for her report.

experiments Noun. (1) Scientific test to find out something unknown. Verb. (2) Try something new or different.

- (1) In our **experiments**, we tested how long plants could live without sunlight.
- (2) Jesse **experimented** with mixing different colors together to make new ones.

government Noun. (1) System of political rule or control.

(2) Group that oversees a city, country, or state.

- (1) A **government** headed by a king or queen is called a monarchy.
- (2) The **government** of our town works in city hall

gravity Noun. (1) Force that pulls objects toward the center of the Earth. (2) Seriousness.

- (1) When you drop an apple, **gravity** makes it fall to the ground.
- (2) The news report made us aware of the **gravity** of the recent disaster.

improvements Noun. Item or ideas that makes something better or more useful.

After many **improvements**, the remodeled museum was ready for visitors.

 **Quick Connect Activities**

Have students complete web diagrams regarding the benefits of space exploration. Have students write *Space Exploration* in the center circle. In the radiating circles, have students write the items that might be gained through exploring and understanding space.

 **Destination Journal**

Ask students to write journal entries on this topic: **You have been invited to join the first group of people who will attempt to live on the planet Mars. Will you go? Write about the reasons that you would like to go and the reasons that you might choose to stay behind.**

 **Book Lists****Books of the Same Genre**

Students who enjoy this genre may choose from these selections for further reading.

***Mars: The Red Planet* by Patricia Brennan Demuth. 1998. Scholastic Inc.** (Below-level students.) This book helps readers explore fact and fiction regarding the red planet. *Lexile: 550*

***Discovering Mars: The Amazing Story of the Red Planet* by Melvin Berger. 1999. Scholastic Inc.** (On-level students.) Readers can join scientists and astronauts in exploring the mystery of the red planet. *Lexile: 670*

***Space Station Mars* by Daniel San Souci. 2005. Tricycle Press.** (Above-level students.) A group of kids is certain that they've found a meteor from Mars in a neighbor's yard. *Lexile: 680*

Books with Related Themes

Students who are fascinated by space exploration may find these books intriguing.

***Grandpa Takes Me to the Moon* by Timothy R.Gaffney. 1996. William Morrow & Company, Inc.** (Below-level students.) A grandson learns the story of his grandfather's trip to the Moon as one of the Apollo astronauts. *Lexile: 590*

***The Baby Grand, the Moon in July, and Me* by Joyce Annette Barnes. 1994. Puffin Books.** (On-level students.) The flight of Apollo 11 in 1969 inspires Annie to dream of being an astronaut. *Lexile: 620*

***Jupiter* by Mary Ann MacDonald. 1998. Child's World, Inc.** (Above-level students.) Readers will learn about Jupiter's location, traits, motions, and moons. *LEXILE: 670*



LESSON 1 PLANNER

Lesson 1: Genre and Vocabulary Study

 Genre Study

Assess students' prior knowledge of **informational texts** by asking whether they have used books or articles to find information that they didn't already know. Perhaps students read directions to assemble a gadget or an article to learn about the benefits of recycling. Ask students to describe the features of informational text. Students may suggest headings, diagrams, captions, lists, steps, and so on. Point out that the purpose of reading an informational text is the reader's need to obtain information or expand knowledge.

Have students write directions for a simple task, such as making a peanut butter and jelly sandwich or tying a shoelace. Suggest that students include headings, diagrams, steps, and so on in their directions.

Assess students' prior knowledge of **science fiction** by asking whether they have seen any of the films in the "Star Wars" series. Ask students to describe the features of such films. Students may focus on the setting and technology, citing such examples as the future, space, and space travel. Point out that one of the author's purposes in creating such stories is to explore the impact of real or imagined science on people and their environments.

Have students write simple descriptions of the classroom or the school bus. Then, have students rewrite the descriptions by adding elements of science fiction. Students may alter their settings or modify the school's technology.

 Build Background

The subject of the courseware is space exploration. Assess students' prior knowledge of this subject. **Ask: What do you know about the Sun? the Moon? the other planets in the solar system? What do scientists know about each of these bodies, and how do they know it?**

Remind students that although actual space exploration began in 1957, when the first satellites were launched, people have always wondered about space. **Ask: Why might early peoples have been interested in space? Why have scientists worked to end the mystery of space? What might people gain by the further exploration of space?**

 Learning Objectives

- Recognize distinguishing features of informational texts, including headings.
- Recognize the author's purpose in writing informational texts.
- Recognize distinguishing features of science fiction stories.
- Recognize the author's purpose in writing science fiction.
- Learn the meanings of grade-level and content vocabulary words in context.
- Identify the meaning of common suffixes.
- Create sentences demonstrating knowledge of suffixes or grade-level vocabulary.

 QuickFact: Information Center

The Red Planet In 1965, scientists saw their first pictures of the surface of Mars. Photographs taken by *U.S. Mariner 4* revealed craters that resembled those of Earth's moon. In 1971, NASA's *Mariner 9* provided more detailed pictures, revealing volcanoes taller than Mount Everest, as well as canyons and valleys. Scientists learned that Mars shares characteristics with Earth's Moon and also with Earth itself.



Vocabulary Strategy: Understand Word Meanings Through Suffixes

Review with students the meaning of each suffix: *-ment* "act of," "condition of," or "product of"; *-able* "able to be"; *-less* "without a" or "having no"; and *-ness* "quality of being" or "a kind of action or behavior." Provide students with the following words and tell them to add the appropriate suffixes to form new words. Students should use their knowledge of the base words and suffixes to suggest definitions for the new words. Point out that the part of speech changes when the suffix is added.

arrange, comfort, open, weight

Differentiated Instruction

ELL: Distribute a short science fiction paragraph that includes several words that contain the suffixes students are studying. Provide write-on lines for each base word, but leave the suffix in place. Provide students with a word bank of base words. Then, have students fill in the blanks with the appropriate base words.

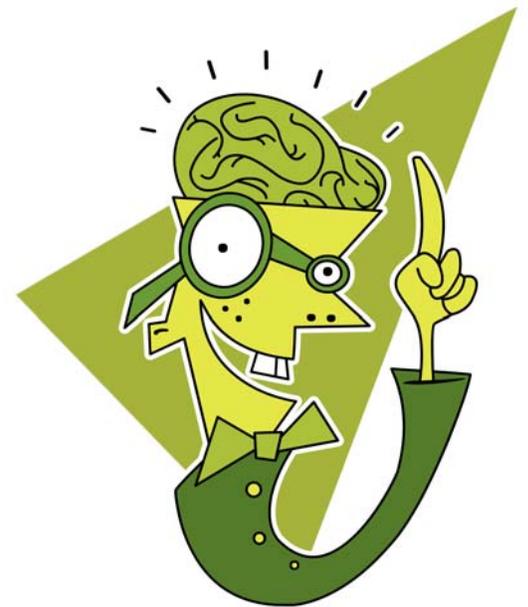
Special Needs: Write each suffix on a separate note card. Then, make cards for a series of base words. Have students use the cards to build words that contain the four suffixes. Suggest that students give a definition and the part of speech for each new word. Then have students check their responses in a dictionary.

Above-level Students: Challenge students to use their knowledge of prefixes and suffixes as well as base words to define the following words. Students should also identify the part of speech. Have students check their responses in a dictionary.

antigovernment, prearrangement, uncomfortable, overprotective, weightlessness

Quick Connect Activities

- Have students use base words with suffixes to write journal entries about a trip they are taking to Mars. Students should tell about one important event aboard the ship as well as their thoughts and feelings about the event.
- Have students write the answer to this question: **Is decoding unfamiliar words a mystery to you, or have you learned one strategy for decoding unfamiliar words by using your knowledge of base words and suffixes? Explain whether this strategy is helpful for you.** (*Metacognition*)



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:

- Have small groups of students explain the differences between informational text and science fiction.
- Have each student write an example of a short informational text and an example of a short science fiction story.
- Have each student write a word containing each suffix. Tell students to identify the part of speech and to write a definition for each word.

LESSON 2 PLANNER

Lesson 2: Comprehension Skill and Strategy

▶ Comprehension Skill: Understand Author's Purpose

Students are told that authors write informational text to inform and science fiction text to entertain. On the board, write the following examples: *Mars is called the red planet. Joe called the space station on Mars to check the weather.* Ask students to identify the genre of each example and then to state the author's purpose for writing.

In the courseware, students identify the purposes for passages of text. For each passage, suggest that students ask themselves whether the passage contains facts or elements of make-believe.

▶ Comprehension Strategy: Use K-W-L

Explain to students that good readers prepare themselves to read. A K-W-L chart can help students improve their reading comprehension. Before reading informational text, students should always ask themselves what they already know about the topic and what they want to know about it.

In the courseware, students will fill out the K and W sections of the chart. Remind students that information for the K section will be phrased as a statement and information for the W section will be phrased as a question. **Say: As you read, you will complete the L section of the chart with statements that answer the questions in the W section.**

▶ Differentiated Instruction

ELL: Have students write out *What I Know*, *What I Want to Know*, and *What I Learned* on their K-W-L charts to help them remember which information to include in each column.

Special Needs: Suggest that students include illustrations as well as sentences in the K sections of their charts.

Above-level Students: Ask: What should you do if a question in the W section of your chart is not answered in the reading? In small groups, have students discuss possible solutions to this problem.

▶ Learning Objectives

- Recognize evidence from a text that demonstrates the author's purpose in writing informational texts.
- Recognize evidence from a text that demonstrates the author's purpose in writing science fiction texts.
- Identify the author's purpose in writing an informational text and a science fiction text.
- 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 sections of a K-W-L chart before reading an informational magazine article.

▶ 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 each student write five short passages to inform readers and five short passages to entertain readers.
- Have each student search library books to find five examples of text meant to inform and five examples of text meant to entertain.
- Have small groups of students use K-W-L charts to write what they know and what they want to know about one of the planets in the solar system. Then, have students skim and scan encyclopedia entries to find the answers to their questions.

LESSON 3 PLANNER

Lesson 3: Summaries and Journal Writing

▶ Primary Story Summary

In this **informational text**, the **author's purpose** is to inform readers about the history of exploration of the planet Mars. Mars is about 50 million miles away from Earth, and no human has ever been there. However, NASA, the U.S. government agency in charge of space exploration, sent a spacecraft to Mars in 1976. From this mission, NASA obtained valuable pictures and information. Scientists immediately set to work on a series of robots designed to explore the planet. After a number of setbacks, two robotic rovers landed safely on Mars in 2004. The rovers were equipped with special tools such as cameras, magnets, and hammers to explore the planet and collect samples. One important discovery was the presence of sulfur compounds, suggesting that Mars may once have contained water, an essential element for forming these sulphur compounds and for supporting life.

▶ Secondary Story Summary

In this **science fiction** story, the **author's purpose** is to entertain readers with a tale about a student group from the planet Mars. The students travel from Mars to an asteroid, where they plan to compete in a song contest against students from all over the solar system. The Martian students are eager to win the contest because the prize is a trip to Earth. Although all the students are descended from people who lived on Earth, none of the students has ever visited that planet. The students sing an original song about why they want to visit Earth. They complement their song with blue pods that glow and make the students weightless. The crowd cheers, and the students win the competition.

▶ Destination Journal

Ask students to write journal entries on this topic: **The students in "Give Me Stronger Gravity!" write a song about why they want to visit Earth. Write a song about why you might want to visit one of the other planets in the solar system. Use the song in the story as a model for your own song. Notice that the song contains four rhyming stanzas.**

▶ Learning Objectives

- Read an informational text to build vocabulary, fluency, and comprehension.
- Locate information while reading an informational text to record in a K-W-L chart.
- Recognize the author's purpose while reading an informational text.
- Use knowledge of suffixes while reading an informational text to improve comprehension of vocabulary words.
- Demonstrate comprehension of an informational text
- Read a science fiction text to build vocabulary, fluency, and comprehension.
- Recognize the author's purpose while reading a science fiction text.
- Locate information while reading a science fiction text to record in a K-W-L chart.
- Use knowledge of suffixes while reading a science fiction text to improve comprehension of vocabulary words.
- Demonstrate comprehension of a science fiction text.

▶ 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 each story, ask them to write a brief summary of each. Remind students to include main ideas and important details.



LESSON 4 PLANNER

Lesson 4: Comprehension Skill and Strategy

 **Comprehension Skill: Understand Author's Purpose**

Remind students that authors of informational texts write to inform, and authors of science fiction stories write to entertain. Ask students to identify five informational facts in "Mars: Where No Man Has Gone Before" and five fiction elements in "Give Me Stronger Gravity!"

After students finish reading, **ask: How does identifying an author's purpose for writing help you read the text?**

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

Review the K-W-L Chart system with students. After students read "Mars: Where No Man Has Gone Before," ask them what they know about the rovers *Spirit* and *Opportunity*. Record this information on the board in the K section of a chart. Then, ask students what they still want to know about these rovers. 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: Bring the sentence "Earth looked like a big blue marble" to your students' attention. ("Give Me Stronger Gravity!") Explain that this sentence contains a simile. The author uses the word like to compare the color and shape of the planet Earth with a marble. Doing so helps readers understand and picture what the story's characters are seeing. Show students a photograph of Earth from space, and invite them to make other comparisons. Remind students that one purpose for writing is description.

Special Needs: Provide students with photographs of Spirit and Opportunity to help them complete the K section of their charts.

Above-level Students: In small groups, students should discuss whether it is possible for an author to have more than one purpose in writing. Have students examine various examples of text to help them form their responses to this question.

 **Learning Objectives**

- Compare and contrast the author's purpose in an informational text and a science fiction text.
- Select information for the L section of a K-W-L chart after reading an informational text.
- Determine information for the L section of a K-W-L chart after reading an informational text.
- Evaluate what has been learned and what is yet to be learned after reading an informational text.

 **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 a page of informational text. Have students use self-stick notes to identify the purpose of each paragraph.
- Provide students with a page from a science fiction story. Have students record information meant to entertain in web diagrams.
- In K-W-L charts, have small groups of students write what they know and what they want to know about penguins. Then, have students search approved Internet sites to find the answers to their questions.

UNIT 02: Mars: Where No Man Has Gone Before & Give Me Stronger Gravity!

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 a textbook, 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 what you have **L**earned in the third column.

What I Know	What I Want to Know	What I Learned