

UNIT 14 OPENER

▶ Preteach: Instructional Terms

An **autobiography** is nonfiction, informational text that is about a real person. Remind students that nonfiction text tells facts about something. A biography is nonfiction text about a real person that is written by someone other than that person. An autobiography is a biography of a person written by that person. **Ask: If you write a story about your friend, would it be a biography or autobiography? If you write a story about yourself, would it be a biography or autobiography? What books have you read that are about a real person's life?**

Biographies and autobiographies have four characteristics, which include:

- They often start with that person's birth or early life and cover birth to late-in-life, or to death.
- They usually explore how early influences affected the subject's life.
- They use direct quotations from the subject and those who knew, or wrote about, the subject.
- They use maps, photographs, and other visual documents.

Biographies and autobiographies have three purposes:

- To allow the reader to understand the person and the events and history affected by that person.
- To offer inspiration based on a remarkable person's life.
- To extend knowledge of the reader's own interest based on similarity to the person. (How might this person be a model for things to do or not do in my own life?) **Ask: Who is the main person in a biography or an autobiography? How does that person make you want to do better in your life?**

Students can use their knowledge of **prefixes** (including *auto-* and *de-*) and **suffixes** (including *-or*, *-iam*, and *-ist*) while reading an autobiography to improve comprehension of vocabulary words. Remind students that the prefix *auto-* means "self." This will help them remember the difference between biography and autobiography.

▶ Scope and Sequence at a Glance

Genre: Autobiography

Title: From Death Rays to Laser Light—My Path to Discovery

Cross-Curricular Connection: Technology

Comprehension Strategy: Create and Use Graphic Organizers

Comprehension Skill: Identify Sequence of Events

Vocabulary Strategy: Word Structure (Prefixes & Suffixes)

Decoding Support: Use Affixes (from Vocabulary Strategy) to Chunk Words

▶ Summary of Reading Passage

From Death Rays to Laser Light—My Path to Discovery

This autobiography is about James J. Wynne, a scientist who helped discover a use for laser light that led to LASIK eye surgery. As a boy in New York City, Wynne loved science fiction. He studied at Harvard University and went to work for IBM, where he began his research with lasers that led to the development of LASIK.

Lexile: 790

Word Count: 913



UNIT 14 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 then read aloud its definition. Point out how students can use their knowledge of prefixes and suffixes to figure out the meaning of words.

autobiography Noun. Text in which the author tells about his or her own life.

Mr. Sato describes what it was like growing up in Japan in his **autobiography**.

concentrated Adjective. (1) Highly focused or strengthened. Verb. (2) Gathered together. (3) Focused thinking or attention.

- (1) Only a **concentrated** cleaner will get out those grease stains.
- (2) The chickens **concentrated** in one corner of the pen at feeding time.
- (3) Sara said that she **concentrated** better on her homework when she was in a quiet place.

discovery Noun. Something found, sometimes through searching. Copernicus's great **discovery** was that Earth revolves around the sun.

energy Noun. (1) In physics, the ability to do work. (2) Source of usable power, as from heat or water. (3) Strength or ability to do something active.

- (1) You must apply **energy** to a rock in order to move it.
- (2) It takes a lot of **energy** to provide electricity for an entire city.
- (3) Jeff barely had enough **energy** to climb out of the pool after the swim meet.

inventor Noun. Someone who creates or invents something new. Thomas Edison was the **inventor** of the phonograph.

investigate Verb. Researched or studied closely. James **investigated** the possible causes of the forest fire.

invisible Adjective. Not visible; impossible to see. The magic cloak made me **invisible**, so I could sneak into the library.

pulse Noun. (1) Throb or steady beat. (2) Throb of blood through the veins that can be felt at the wrist or neck.

- (1) The music's loud **pulse** drew everyone to the dance floor.
- (2) My **pulse** was racing as I ran along the dark, deserted road.

research Noun. (1) Careful study of a certain subject. Verb. (2) Study and find out as much as possible about a subject.

- (1) Ana conducted **research** about different ways to conserve energy.
- (2) Galileo spent his life **researching** the sun and the planets.

 **Quick Connect Activities**

Ask students to use the words *autobiography*, *inventor*, *invisible*, and *research* in a short story that begins with this prompt: "I was one of the **inventors** . . ."

 **Destination Journal**

Ask students to write journal entries on this topic: **You have been invited to join a team of scientists who are about to make a great discovery that will change the world. What is this discovery? How will it change the world? Why do you want to be a part of this team?**

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

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

***Coming of Age in Mississippi* by Anne Moody. 1968. Laurel-Leaf Books.** (On-level students.) A woman born and raised in Mississippi tells the story of her childhood. *Lexile: 870*

***Assignment Rescue: An Autobiography* by Varian Fry. 1993. Scholastic Inc.** (Above-level students.) The autobiography of an undercover agent who saved people from the Nazis. *Lexile: 830*

Books with Related Themes

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

***Women in Agricultural Science Careers* by Jetty Kahn. 2000. Capstone Press.** (Below-level students.) This book contains stories about women scientists. *Lexile: 760*

***Awesome Science* by Katherine Gleason. 2004. Scholastic.** (On-level students.) This book contains true tales about science and scientists. *Lexile: 760*



LESSON 1 PLANNER

Genre Study

Assess students' prior knowledge of **autobiographies** by asking what stories they have read about other people. **Ask: Have you ever read a story about a famous scientist written by that scientist? A singer? A writer?** Discuss with students how the story began. **Ask: Did it start at the beginning of the subject's life and then tell about special events in that person's life?** This is the way most autobiographies are written, but not all.

Explain that there are memorable experiences in a person's life. These experiences are the ones that people write about in their autobiographies. These memorable experiences are told in a sequence of events. The events are often told in the order that they occur, but sometimes writers tell about events out of chronological order. Sometimes events happen at the same time, and sometimes writers use flashback, which is a memory about an event that happened earlier.

To help the reader keep track of sequence, writers use signal words such as *first*, *next*, *last*, *on Monday*, *three years later*, *in the fall*, and so on. If the events are happening at the same time, a signal word might be *meanwhile*.

Build Background

The subject of this slide show in the courseware is lasers and how they work. Assess students' prior knowledge of this technology. **Ask: What are some ways that lasers are used?** Students may suggest laser penlights and cutting tools, or as a feature in science fiction. Explain that laser can also be used to help doctors and nurses as a tool to heal people. Tell students that in the story they are going to read, they will learn about a special way lasers are used. It's called LASIK surgery, and it's used to help people see better. **Ask: Do you know anyone who has had LASIK surgery?**

Assess students' prior knowledge of technology. Tell students that new technology is being created every day and that new machines that use technology are being made everyday. **Ask: What are some new technologies that you know about? For example, text messaging on your cell phone is a newer technology used by many people.**

Learning Objectives

- Recognize distinguishing features of autobiographies.
- Recognize the author's purpose in writing autobiographies.
- Learn the meanings of grade-level and content vocabulary words in context.
- Identify the meaning of common prefixes, including *auto-* and *de-*, and suffixes, including *-or*, *-ian*, and *-ist*.
- Use knowledge of prefixes, including *auto-* and *de-*, and suffixes, including *-or*, *-ian*, and *-ist*, to determine word meaning.
- Write sentences to demonstrate comprehension of grade-level vocabulary with prefixes and suffixes.

QuickFact: LASIK Eye Surgery

Surgery to help correct vision began in the 1940s, but it was not until the mid 1990s that LASIK eye surgery was developed. LASIK eye surgery can correct nearsightedness, farsightedness, and astigmatism.



Vocabulary Strategy: Word Structure (Prefixes and Suffixes)

Remind students that a base is the main part of a word. The base gives the basic meaning of the word. Prefixes and suffixes have meanings too and can be added to base words. Prefixes are added to the beginning of base words. Suffixes are added to the ending of base words.

Write the word decode on the board. **Ask: What is the base word?** Students will suggest the word code. **Ask: What does code mean?** Code means a set of symbols or numbers that have a meaning that not everyone can understand. Tell students that the prefix de- means to reverse. **Ask: What does the word decode mean?**

On the board create a simple graphic organizer like this one.

prefix	meaning	base	meaning
de	reverse	code	secret symbols

Write the word inventor on the board. **Ask: What is the base word?** Students will suggest the word *invent*. **Ask: What does *invent* mean?** *Invent* means to create something new. Tell students that the suffix -or means one who. **Ask: What does the word inventor mean?**

On the board create a simple graphic organizer like this one.

suffix	meaning	base	meaning
or	one who	invent	create something new

Differentiated Instruction

ELL: Provide students with a list of words with prefixes and suffixes. Have students put a box around the base word within each of the words on the list.

Special Needs: Have students work together to write a rhyming poem about prefixes and suffixes, and then deliver the poem.

Above-level Students: Challenge students to make a list of words with a prefix or suffix from their reading over the next week. Have students create a graphic organizer that includes the word, the base word, the prefix or suffix, the definition of the base word, and the meaning of the prefix or suffix.



Quick Connect Activities

Have students work in small groups to write the rules of a game of technology. The game can use machines, text messaging, GPS, or any other form of technology.

Destination Journal

Have students write a journal entry about an invention they would like to create. Then have them use different colors to highlight all the base words, the prefixes, and the suffixes.

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 each student write a brief autobiography. Tell students to use signal words to indicate the sequence of events.
- Provide students with a list of five words with a prefix or suffix. Have students create a simple graphic organizer that shows the prefix or suffix, the base word, and the meaning of each.



LESSON 2 PLANNER

Comprehension Skill: Identify Sequence of Events

Students are told that knowing the sequences of events is important, because it helps you understand how one event relates to another. On the board, write *Signal Words*. Explain that these are words that tell us when an event occurred. List these signal words on the board: *first, next, before, after, then, later, during, meanwhile, finally, last, at last, days of the week, dates, and years*.

In the courseware, students are given four problems/rounds with short autobiographies or biographies. Their task is to place in sequence three events from each passage.

Comprehension Strategy: Create and Use Graphic Organizers

Explain to students that graphic organizers help you organize information while you read. They can also help you keep track of information or events, and be an aid for summarizing after you read. There are many different types of graphic organizers. The type you should use depends on the text. Draw a Venn diagram on the board. Explain that this type of graphic organizer is for comparison—to help you see how things are alike and different.

In the courseware, students are given three passages from which they sort information into Venn diagrams.

Differentiated Instruction

ELL: Obtain biographies or autobiographies about people in the students' native culture for students to read. Ask them to write a list of the sequence of events.

Special Needs: Have kinesthetic learners perform a short skit that illustrates the sequence of events of a story. Have other students interpret the events and tell the story.

Above-level Students: Ask students to make a list of the important events in their lives and then use this list to write the first paragraph of their autobiography. Have them make a Venn diagram of the important events to show the relationship between them.

Learning Objectives

- Recognize the importance of sequence of events in autobiographies.
- Identify the sequence of events in an autobiography.
- Recognize that the purpose of using a Venn diagram is to improve reading comprehension.
- Determine information to record in a Venn diagram to compare and contrast information.

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 write about three events that they experienced over the past week. Ask them to use signal words to show the sequence of events.
- Have students create a Venn diagram of two of the related events that they wrote about.

LESSON 3 PLANNER

Lesson 3: Story Summary

 **Story Summary**

This autobiography is about James Wynne, a scientist who works with lasers, those light rays that go zap! Mr. Wynne likes the movie *Star Wars* and figuring out how things work. He was born in Brooklyn, New York, in 1943, and moved to Long Island when he was six. Television and computers were new, and cell phones and video games hadn't even been invented. Still, the technology that made these things possible was already in the minds of some creative inventors.

As a boy, Mr. Wynne liked to hang out with his friends, decode secret messages, and play tennis. He and his older sister solved math problems just for fun. He loved science fiction; his favorite show was *Flash Gordon*, which was science fiction like *Star Wars*. In high school, because of a terrific physics teacher, Mr. Wynne became hooked on physics. In physics you study how matter, energy, force, and motion affect one another. Electronics, atomic energy, and even sports are all based on the laws of physics.

He studied physics at Harvard University. In the summer, he worked for a company that created lasers. A laser produces a thin, concentrated beam of light, which may be used to cut or destroy different forms of material.

After college, Mr. Wynne went to work for IBM, where he managed a team of scientists doing special research with lasers and investigating chemical reactions caused by laser light. They began working with an invisible laser light when one of the scientists discovered this laser could cut into the tissue of a turkey leg without burning the tissue.

Mr. Wynne tried the laser on his finger. POP! Tissue disappeared, but there was no burn. The tissue had vaporized without hurting his finger. The scientists got really excited, because they knew this discovery would help medical science. It did. It led to LASIK surgery that is used to improve people's vision.

 **Destination Journal**

Have students write a journal entry about what they enjoy doing and what type of job this might lead to in their future. Remind students that when Mr. Wynne was a boy he liked decoding secret messages, watching *Flash Gordon*, and solving math problems, which led to his job as a scientist.

 **Learning Objectives**

- Read an autobiography to build vocabulary, fluency, and comprehension.
- Record information in a Venn diagram while reading an autobiography to improve comprehension.
- Recognize the sequence of events while reading an autobiography.
- Use knowledge of prefixes, including *auto-* and *de-*, and suffixes, including *-or*, *-ian*, and *-ist*, while reading an autobiography to improve comprehension of vocabulary words.
- Demonstrate comprehension of an autobiography.

 **Assessment: Toolkit**

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

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

- Provide students with a short autobiography. After they have read it, ask them to make a list of the sequences of events as they happened.
- Have students make a Venn diagram that shows comparisons of the events in the autobiography.



LESSON 4 PLANNER

 **Comprehension Skill: Identify Sequence of Events**

Remind students that autobiographies are told in a sequence of events. **Ask: Which of these events came first in the story? Mr. Wynne was an average boy. Mr. Wynne went to Harvard. Mr. Wynne worked for IBM.** Students will answer that Mr. Wynne was an average boy. After students finish reading the autobiography, ask them what signal words they noticed in the story. Students might answer *then*, *after*, or passages of time, such as *after high school*.

In the courseware, students are asked to place passages from the story into the correct sequence. Remind students to look for signal words and phrases.

 **Comprehension Strategy: Create and Use Graphic Organizers**

Review a Venn diagram with students. Draw one on the board. After students read "From Death Rays to Laser Light—My Path to Discovery," ask them to state the difference between lasers. Above the diagram, write *laser*, above the left circle write *visible laser*, and above the right write *invisible laser*. Have students add information about each type of laser in the appropriate circle. Where the circles overlap, list the common traits that both types share.

 **Differentiated Instruction**

ELL: Have students make a list of the signal words or phrases in the passage, translate these into their native language, and then repeat aloud the word in English.

Special Needs: Have students with dyslexia use colorful self-stick notes to mark signal words that show the sequence of events in the passage.

Above-level Students: Have students think of a cause-and-effect situation on which they could center a story. Ask them to develop a sequence of events for this situation.

 **Learning Objectives**

- Analyze the sequence of events in an autobiography using signal words.
- Recognize how the order of events affects outcomes in an autobiography.
- Complete a Venn diagram after reading an autobiography.
- Evaluate how graphic organizers can help improve comprehension of a nonfiction 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 short autobiography. Have them write number 1, 2, and so on next to the signal words that show the sequence of events.
- Have students use the same short autobiography to create a Venn diagram that shows comparisons among the events.
- Finally, have students analyze how leaving out just one of the events in the autobiography could change the course of the person's life.

UNIT 14: From Death Rays to Laser Light—My Path to Discovery

Name: _____ Date: _____

 **Comprehension Strategy: Using a Venn Diagram**

Directions: You have learned how to use a **Venn Diagram** to compare and contrast ideas, people, events, and objects. As you read, use the **Venn Diagram** below. Write appropriate details about one item in the left oval and about another item in the right oval. If the details apply to both items, write them in the overlap area.

