

About the Book

Text Type: Nonfiction/Informational Page Count: 16 Word Count: 1,513

Book Summary

Ever wonder how astronauts sleep in space? What about going to the bathroom? How do you eat when your food floats away? *Life in Space* answers these questions and more as readers learn about astronauts' daily lives aboard the International Space Station. A variety of photos, graphs, and sidebars illuminate this book's exploration of daily activities in weightlessness. Use this book to teach about author's purpose and possessive nouns.

Book and lesson are also available at Levels S and V.

About the Lesson

Targeted Reading Strategy

- Connect to prior knowledge

Objectives

- Connect to prior knowledge to understand text
- Analyze the author's purpose for the text
- Identify and use possessive nouns
- Understand word origins and use them to construct meaning

Materials

Green text indicates resources are available on the website.

- Book—*Life in Space* (copy for each student)
- Chalkboard or dry-erase board
- Extraterrestrial photographs
- **Connect to prior knowledge, author's purpose, possessive nouns worksheets**
- **Discussion cards**



Indicates an opportunity for students to mark in the book. (All activities may be demonstrated by projecting the book on an interactive whiteboard or completed with paper and pencil if the 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: **astronauts** (n.), **gravity** (n.), **launched** (v.), **orbited** (v.), **space station** (n.), **technology** (n.)

Enrichment: **cosmonaut** (n.), **grueling** (adj.), **operational** (adj.), **rehabilitation** (n.), **resistance** (n.), **simulating** (v.)

Before Reading

Build Background

- Tape extraterrestrial photographs to the board, such as planets, stars, and comets. Have students identify the images.
- Introduce and explain the **connect-to-prior-knowledge worksheet**. Have students fill out the first portion independently, by reading the statements and marking *true* or *false* in the *Before Reading* column. If they believe a sentence is false, have them rewrite it so that it is true. Discuss the sentences with the class. Point out that after they have read the book, they should be able to accurately analyze each sentence.

- Ask students to consider how we have learned about all of these objects that are not on our planet. Call on random students to share one method we have of learning about space, and record the information on the board. Write the word *astronauts* on the board and have students read it aloud. Discuss with students how astronauts contribute to our knowledge about outer space.

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 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, author's name).

Introduce the Reading Strategy: **Connect to prior knowledge**

- Remind students that engaged readers help themselves to understand what they are reading by making a connection between what they already know about a topic and what they read in the book. Discuss with students how interacting with the text by connecting to prior knowledge will help them understand and remember what they read.
- Ask students to review their connect-to-prior-knowledge worksheet with a partner. Point out that they can accurately label a sentence as true or false only if they have prior knowledge about the sentence's subject. Have students discuss with a partner their prior knowledge of outer space and astronauts.
- Have students preview the table of contents and the illustrations and photographs in the book. Remind them to think about any prior knowledge they have that is related to what they see.
- Model how to connect to prior knowledge.
Think-aloud: As I read through the table of contents, some of the topics look unusual, and some sound familiar. For example, I don't know much about weightless living, but I do know all about sleeping and eating and taking a bath. I exercise several times a week. I know how to do these activities, but I have a feeling that the way astronauts do things is very different. My prior knowledge about these subjects will help me to relate to the astronauts and also enable me to better understand the differences in the way astronauts live.
- Have students complete the connect-to-prior-knowledge worksheet by filling out the second section. Explain to students that their prior knowledge can be about astronauts, space, or any of the topics mentioned in the table of contents.
- Have students share with a partner two examples of how they connected information from the book preview with their own prior knowledge.
- As students read, encourage them to use other reading strategies in addition to the targeted strategy presented in this section.


Introduce the Comprehension Skill: **Author's purpose**

- Write the following words on the board: *inform*, *entertain*, and *persuade*. Have students read the words aloud. Ask students to share with a partner the definition of each word.
- Remind students that to *inform* means to give a person information about a topic, to *entertain* means to amuse a person, and to *persuade* means to try to make a person think the same way you do.
- Have students work with their partner to think of a real-world example for each of the three purposes. For instance, commercials persuade us to buy, and musical concerts entertain us. Invite volunteers to act out their example, and have the rest of the class guess whether the student is trying to convey informing, entertaining, or persuading.
- Remind students that when an author writes a book, he or she has a purpose for that book. An author's purpose may be to inform, to entertain, or to persuade. Point out that an author may have more than one purpose in a book.

- Model analyzing an author's purpose.
Think-aloud: When I read a book of jokes, I laugh and have fun. The author's purpose in creating that book is to entertain the reader. The writer of an ad that is trying to sell me a new type of perfume wants to convince me that the product is the best one. That author has the purpose of persuading me. However, the author that writes a book teaching about volcanoes has the purpose of informing the reader. That author is teaching the reader facts about a topic.
- Have students think about two books they previously read in class and analyze the author's purpose for each book. Have students write the name of the book and the author's purpose for each on a separate sheet of paper. Then, have students work in groups to share the two books they analyzed and what the author's purpose was for each book. Encourage groups to come to a consensus on the author's purpose for every book discussed in their group. Invite volunteers to share and justify their analysis of the author's purpose for a book with the rest of the class.

Introduce the Vocabulary

- As students preview the book, reinforce the vocabulary words they will encounter in the text. For example, have students refer to page 7 and say: *How big is the space station? About how many houses do you think could fit in it? How heavy is the space station? Think about how many people you would need to put together to equal that weight!*
- Remind students that engaged readers often use context clues to determine the meaning or pronunciation of an unfamiliar word. Write the word *launched* on the board and read it aloud with students. Have students point to the word *launched* on page 6. Explain to students how to use context clues to ascertain the meaning of the word. For example, say: *The sentence tells me that the Soviet Union launched its first space station in 1971. What can we do to space stations? We could fix them or build them or send them into space. The picture shows a space station floating above the Earth. On the basis of the sentence and the photograph, the meaning that most makes sense for this word is to send something moving into space.*
- Explain to students that sometimes they won't find enough clues to figure out the meaning of the word, or they might decide on an incorrect meaning. They will then need to use other resources to define the word.
- Remind students that some books have glossaries that define important vocabulary words from the text. Have students turn to the glossary on page 16. Ask students to find and point to the word *launched*. Have a volunteer read the definition aloud. Have students discuss with a partner whether the meaning in the glossary confirms the meaning they inferred from the context.
- Have students read the remaining words in the glossary. Write the words *gravity*, *orbited*, and *technology* on the board. Ask students to find these words in the text and to use context clues to determine the meaning of the words. Have students write definitions for the words on a separate sheet of paper. Have students work with a partner to compare their definitions with those in the glossary.


 Ask students to circle the words in the glossary that they have not yet defined. Write the words *astronaut* and *space station* on the board. Call on students to read the definition for each word aloud. Have students create context clues for these words. For instance, have students write a sentence and draw a picture for the word *astronaut* that clearly demonstrates that an astronaut is a person trained to live and work in space. For those students who finish early, have them create context clues for the other circled words in the glossary.

Set the Purpose

- Have students read to find out more about an astronaut's life. Encourage students to connect the information they read to their prior knowledge about the subject.

During Reading

Student Reading

- **Guide the reading:** Have students read from page 4 to the end of page 7. Encourage those who finish early to go back and reread.
 - **Model connecting to prior knowledge.**
Think-aloud: *In this part of the book, I learned that the International Space Station has more living space than an average five-bedroom house, is over 100 meters long, and weighs almost one million pounds. The house I live in is a four-bedroom building, so my prior knowledge of house sizes helped me to estimate the interior size of the station. Making this connection to my prior knowledge allowed me to understand that astronauts have room to move around but also made me think about how difficult it must be living in enclosed quarters for a long time. After all, I wouldn't like being stuck in a house, even a big house, for months at a time. I also had prior knowledge about how many pounds I weigh, and this prior knowledge helped me to realize that the ISS is extremely heavy. I'm glad that it is floating in space and that nothing has to hold it up. My prior knowledge allowed me to better understand these facts I learned.*
 - Have students discuss with a partner the connections they made between the information in the book and their prior knowledge.
 - Create a three-column chart on the board, and at the top of the columns write the labels *to inform*, *to entertain*, and *to persuade*. Call on random students to share a detail from the book, and have the other students point to the column that best classifies that detail. (For example, the book *entertains* with details that lead the reader to imagine that he or she is waking up in space and flying across the no-gravity room. The book *informs* the reader by providing details such as the space race starting in the 1950s and 1960s and Yuri Gagarin being the first Russian cosmonaut.)
 - Invite students to come to the board and write the details in the appropriate columns. Remind students that authors may have more than one purpose in writing, but generally have a main purpose. Encourage students to review all the details as they read and to analyze the main purpose the author has in this book.
 - Have students copy the chart on a separate sheet of paper.
 - **Check for understanding:** Have students read pages 8 through 11. Encourage them to stop after every few pages and review the prior knowledge they wrote down on the connect-to-prior-knowledge worksheet. Remind them to connect what they are reading with their prior knowledge of the subject.
 - Review with students the new information they read. Discuss with students how these details support one or more of the three purposes for writing a book. Have students write three more details in the chart on their separate sheet of paper. Invite volunteers to come to the board and record examples in the appropriate columns of the chart.
 - Have students discuss with a partner their opinion on the author's purpose for this book. Point out that the column with the most details shows where the author is putting more emphasis, and the purpose with the most emphasis is usually the author's main one for the book.
 - Have students read the remainder of the book. Remind them to continue connecting their prior knowledge to the information about astronauts and space.
-  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

- **Think-aloud:** *Toward the end of the book, I learned that astronauts have to exercise in space because the lack of gravity makes their bones and muscles weak. When they run, they use straps to pull them down and other equipment that increases resistance that we normally have through gravity. I know that space has no gravity and that it is different to walk and move there, so I understand why exercise would be so important and also why it would be difficult for astronauts. I didn't know that they still lost up to 30 percent of their muscle mass despite exercising. Even though it surprised me that they lost so much strength in space, it was easier for me to understand the reasons because of my prior knowledge.*
- Have students discuss with a partner all the new information they learned about astronauts and space. Call on random students to come to the board and record one new fact they learned. Invite volunteers to share how they connected this information to their prior knowledge.
- **Independent practice:** Have students complete their connect-to-prior-knowledge worksheet by reading the statements again and marking *true* or *false* in the *After Reading* column. Then, have students turn the worksheet over. On the back, have students write sentences that describe three ways they connected information in this book to their prior knowledge. Invite volunteers to share what they wrote with the rest of the class.

Reflect on the Comprehension Skill

- **Discussion:** Have students finish filling out their chart that analyzes author's purpose on a separate sheet of paper. Discuss the remaining details they recorded, and invite volunteers to add them to the chart on the board.
- Have students review their charts, and encourage them to look at the column that contains the most details. Ask students to silently consider their opinion on the author's purpose for the book, and then have students call out that purpose.
- Ask students to discuss with a partner examples from the book where the author informed readers about an astronaut's life. Invite volunteers to provide details to the rest of the class. Remind students that even though the author's main purpose is to inform, the author could also entertain or persuade in the same book. Invite volunteers to share any examples of these other purposes from the book.
- **Independent practice:** Introduce, explain, and have students complete the [author's purpose worksheet](#). If time allows, discuss their answers.
- **Enduring understanding:** In this book, you learned about the exciting and challenging life of an astronaut. Now that you know more about an astronaut's daily life, would you like to be an astronaut when you are older? Why or why not?

Build Skills

Grammar and Mechanics: Possessive nouns

- Write the following sentence on the board: *A space station's walls are white.* Read the sentence aloud, and have students point to the word *walls*. Ask students to identify with a partner what object in the sentence the walls belong to (*a space station's*).
- Remind students that the compound word *space station's* is a possessive noun. Have students review with a partner the use of possessive nouns. Reinforce that a *possessive noun* is a word that *shows ownership*, or possession. Remind students that a possessive noun is formed by adding an *'s* to the end of a word.
- Point out that objects can belong to people, animals, or things; in other words, nouns. That's why we call these words *possessive nouns*.

Lesson Plan *(continued)*

Life in Space

- Have students turn to page 8. Ask them to find and point to the possessive word on that page (*astronaut's*). Have students share with a partner how they know it is a possessive noun and what belongs to the astronaut.
- Write the following sentence on the board: *They made the astronauts' dinner very tasty that night.* Ask students to locate the possessive noun. Explain that there are exceptions to the rule of adding 's to the end of the word to form a possessive noun. Circle the possessive noun, and ask students to identify how this possessive noun is different. Explain to students that if the noun is plural and ends in -s, we add only an apostrophe to the end of the word. Therefore, we write *astronauts'* instead of *astronauts's*. Ask students what belongs to the astronauts in the sentence (*dinner*).
- Remind students that a contraction using 's is different from a possessive noun. For example, *it's* is a contraction for *it is* and does not show ownership.



- Check for understanding:** Write a list of nouns on the board, some singular and some plural, such as *mother, friends, dogs, house*, and so on. Have students work with a partner to make these words possessive nouns by adding 's or an apostrophe to the end and then to think of an object that the possessive noun would own. Have students create sentences using these phrases, and invite volunteers to share the sentences with the class. Call on students to come to the board and change the noun to a possessive noun.
- **Independent practice:** Introduce, explain, and have students complete the **possessive nouns worksheet**. If time allows, discuss their answers aloud.

Word Work: **Word origins**

- Write the word *astronaut* on the board and read it aloud with students. Explain to students that the beginning of this word, *astro-*, comes from an old word that means *things related to stars*. The ending of the word, *-naut*, comes from an old word that means *sailor, or a person navigating a vehicle*. Write these definitions on the board.
- Have students discuss with a partner why these two words were joined together to create the word *astronaut*. Encourage students to consider the original definitions and how they relate to the definition of the word *astronaut*. Invite volunteers to share their thoughts with the rest of the class.
- Explain to students that languages are built on older languages. When we study English, we can find many examples of these older languages in our current words. Sometimes we find these fragments from other languages in root words and sometimes in prefixes and suffixes. Point out that studying the origin of a word teaches us about the history of our language and helps us understand the deeper meaning of words.
- Explain to students that the two halves that create the word *astronaut* derive from Greek words. Write the word *Greek* on the board and have students read it aloud. Explain to students that we have many words with Greek origins in our language.
- Write the words *decagon*, *decimal*, and *decade* on the board. Beneath each word, draw a picture that illustrates the word and emphasizes the element of ten. Ask students to discuss with a partner what these words have in common.
- Invite volunteers to share the definition for each word. *Decagon* means a ten-sided shape, *decimal* is a unit of measurement counted in tens, and *decade* means a period of ten years. Ask students to write the words on a separate sheet of paper. Have them underline the part of the word that indicates ten. Point out that this will probably be the same for each word.
- Explain to students that the prefix *dec-* or *deca-* comes from the Greek word *deka*, meaning *ten*. Ask students to discuss with a partner why this prefix is used in all three words.
- Write the words *photograph* and *photophobia* on the board. Have students write these words on a separate sheet of paper. Explain to students that *photograph* means *an image created using light* and that *photophobia* means *a fear of light*. Have students write these definitions beneath the words on their separate sheet of paper. Ask them to discuss with a partner what part of the word is from an older language and what it originally meant. Guide students to an understanding that the prefix *photo-* derives from a word meaning *light* (also Greek).

- **Check for understanding:** Write the words *astronomy*, *decathlon*, and *photocopier* on the board. Explain to students that *-onomy* derives from a word that means *studies*; *-athlon* derives from a word meaning *an event or competition*, and the ending *-copier* means *something that makes copies*. Write a basic definition for each ending on the board. Have students work in groups to determine the meanings of the three words, using their knowledge of the origins of the two parts of each word. Have groups share their definitions with the rest of the class and justify their decisions. Reveal the definition for each word, and discuss with the class how it compares with the definition they constructed.

Build Fluency

Independent Reading

- Allow students to read their book independently. Additionally, partners can 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 demonstrate how to analyze an author's purpose for a book.

Extend the Reading

Informational Writing and Art Connection

Write a list of professions on the board. Ask students to choose from the list one career that interests them. Have students research their choice in the library, online, or using classroom resources. Guide them in taking notes on the profession, focusing on four areas: the training required, the daily routine, the challenges involved, and the rewards of the job. Have students write an essay, using five paragraphs, that describes this career. Ask students to introduce the profession, describe the job, and explain whether they want to pursue that career in the future. Remind students to use an introduction and conclusion. Ask students to draw a picture representing the profession to accompany their essay.

Visit WritingA-Z.com for a lesson and leveled materials on informational writing.

Science Connection

Read a couple of books about the solar system to students. Discuss with students the nature of the Sun and other stars. Split students into eight groups. Have students work in groups to study facts about one planet and then to share the information with the rest of the class. Write the names of the planets on the board, in their respective order from the Sun, and explain to students how to memorize their order using a mnemonic technique, such as an acrostic (My Very Energetic Mother Just Served Us Nachos = Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune). Have students make collages of the solar system, cutting out circles for the planets and the Sun and arranging them in the correct order. Have students decorate their solar system with stars. On the reverse side, have students write down three facts about stars and one fact about the Sun. Hang these solar system collages up in the classroom or on a bulletin board.

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 use the strategy of connecting to prior knowledge to comprehend the text during discussion and on a worksheet
- accurately determine the author's purpose during discussion and on a worksheet
- correctly use possessive nouns during discussion and on a worksheet
- accurately use word origins to construct definitions during discussion

Comprehension Checks

- **Book Quiz**
- **Retelling Rubric**