



About the Book

Text Type: Nonfiction/Informational Page Count: 24 Word Count: 1,578

Book Summary

Jupiter's Secrets Revealed is an informative book about the largest planet in our solar system. It tells readers about the planet's composition, weather, and orbit patterns, as well as its 63 moons. The book provides details about spacecraft visits and telescopic pictures of Jupiter that have been recorded by scientists. It also poses questions to readers about what may be next for the huge planet and its moons. Photographs, illustrations, and diagrams support the text.

About the Lesson

Targeted Reading Strategy

- Ask and answer questions

Objectives

- Use the reading strategy of asking and answering questions to understand text
- Identify details to compare and contrast information in text
- Recognize irregular past-tense verbs in text
- Understand how to read pronunciations in parentheses

Materials

- Book—*Jupiter's Secrets Revealed* (copy for each student)
- Chalkboard or dry erase board
- Solar system map, index cards
- KWLS, compare and contrast, irregular past-tense verbs, pronunciation worksheets
- Discussion cards



Indicates an opportunity for students to mark in the book. (All activities may be demonstrated by projecting the book on interactive whiteboard or completed with paper and pencil if 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: **atmosphere** (n.), **helium** (n.), **hydrogen** (n.), **magnetic field** (n.), **orbit** (n.), **solar system** (n.)

Enrichment: **asteroids** (n.), **astronomer** (n.), **astronomy** (n.), **axis** (n.), **comet** (n.), **craters** (n.), **diameter** (n.), **equator** (n.), **meteoroids** (n.), **radio waves** (n.)

Before Reading

Build Background

- Write the words *Earth* and *Jupiter* on the board. Ask students to share what they know about each planet.
- Create a KWLS chart on the board and hand out the [KWLS worksheet](#). Review or explain that the *K* stands for knowledge we know, the *W* stands for information we want to know, the *L* stands for the knowledge we learned, and the *S* stands for what we still want to know about the topic. As various topics are discussed, fill in the first section (K) on the board with information students know about the topic. Have students complete the same section of their KWLS chart.

Lesson Plan *(continued)*

Jupiter's Secrets Revealed

- Create a discussion to help generate information about Jupiter to add to the (K) section on their worksheet.
- Explain that Jupiter is similar and different from Earth. Discuss with students what they know about Earth. Ask students questions such as: *How many moons does Earth have (one) and To what group of planets, stars, and moons does Earth belong (solar system)*. Have students write this information on their worksheet as preparation for later in the lesson.
- Ask students what they would like to know about Jupiter. Have them fill in the second section (W) of their chart. Write their questions on the class chart.

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 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: **Ask and answer questions**

- Discuss how asking and answering questions while reading can help readers understand and remember the information in a book.
- Direct students to the table of contents. Remind them that the table of contents provides an overview of the information in a book and how it is organized. After previewing the table of contents, use it to model asking questions.
Think-aloud: I can use the table of contents to think of questions I would like to have answered about Jupiter. For example, one section is titled "What Is Jupiter Made Of?" This makes me wonder if Jupiter has a solid surface to walk on, like Earth. I'll have to read the book to find out. I'll write this question on the chart. Before reading, questions often come to mind about the topic. As I read, I enjoy looking for answers to my questions, which often sparks further curiosities and questions to answer while reading.
- Have students look at the other section titles. Have them write any questions they have based on the covers and table of contents in the W section of their KWLS chart.
- Have students preview the rest of the book, looking at illustrations, photos, and captions. Invite them to read through the glossary and index. Have them add any additional questions they might have to their KWLS chart. Invite students to share their questions aloud. Write shared questions on the class chart.
- As students read, encourage them to use other reading strategies in addition to the targeted strategy presented in this section.

Introduce the Comprehension Skill: **Compare and contrast**

- Explain that one way to understand concepts in a book is to tell how the information is similar and different.
- Instruct students to turn to page 9 and study the information in the chart. Model how to compare and contrast using clues from the text.
Think-aloud: In this chart, the author gave us information about the diameters of each planet, along with their average distances from the Sun. In comparing Earth to Jupiter, I learned that while Earth is nearly 93,000,000 miles from the Sun, Jupiter is almost 484,000,000 miles from the Sun. Therefore, Earth is much closer to the Sun.
- Model how to compare and contrast information using a Venn diagram. Draw a Venn diagram on the board. Label the left circle *Earth* and the right circle *Jupiter*. Explain that information telling how Earth and Jupiter are similar is written where both circles overlap. Information that is only true of Earth is written in the left side of the left circle. Information that is only true of Jupiter is written in the right side of the right circle.

- Introduce and explain the **compare-and-contrast worksheet**. Have students identify similarities and differences between Earth and Jupiter, reviewing the information in the chart, the illustration on page 9, and the Build Background discussion. Add this information to the Venn diagram and have students write it on their worksheet.

Introduce the Vocabulary

- Write the following content vocabulary words on the board: *Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune*. Read each word aloud with students. Ask them to share what they know about the location of each planet.
- Show students a map of the solar system. Locate each planet on the map. Discuss the different sizes of the eight major planets in the solar system in relation to the Sun. Show students the photo on page 9 of the book.
- Write the content vocabulary words from the board on index cards. Read each card aloud with students. Match each index card to a location labeled on the map of the solar system. Ask students to share what they know about the location of each planet in relation to the Sun. Explain to students that these planets, along with the Sun and different planets' moons, make up our solar system. Ask students if they think the universe also contains other solar systems.

Set the Purpose


- Have students think about what they already know about Earth and Jupiter as they read the book to compare and contrast the two planets. Remind them to find answers to their questions and write what they learned in the *L* section of their KWLS worksheet.

During Reading

Student Reading

- **Guide the reading:** Have students read from page 4 to the end of page 11. Remind them to look for information about Earth and Jupiter that will answer questions on their KWLS worksheet. Encourage students who finish early to reread the text.
- When students have finished reading, have them circle any questions on their KWLS worksheet that were answered and add any new questions that were generated.
- Model answering a question and filling in the third section (*L*) of the KWLS chart.
Think-aloud: I wanted to know if Jupiter has a solid surface to walk on, like Earth does. I read that scientists have found that Jupiter is made mostly of gases and liquids. The swirly, colorful stripes that can be seen through a telescope are clouds of gas. I will write this information in the L section of the KWLS chart. I noticed that the fifth section is titled "The Moons of Jupiter." I wonder how many moons the planet has and what they are like. I will write this question on my chart.
- Have students write answers for the questions they circled in the *L* section of their KWLS worksheet. Invite them to share the information they learned and the questions they generated as they read the book. Record shared responses on the class KWLS chart.
- Review with students the information about the length of a day on Earth and on Jupiter. Discuss the difference between the two planets (a day on Jupiter is 9 hours and 55 minutes; a day on Earth is 24 hours). Invite students to share any additional differences they identified while reading (Earth has a solid surface, while Jupiter is made mostly of gases and liquids). Write this information in the Venn diagram on the board and have students write it on their worksheet.
- **Check for understanding:** Have students read to the end of page 16. Have them write answers they found while reading in the *L* section of their KWLS worksheet and additional questions they raised in the *W* section. Invite them to share the information they learned and the questions they generated as they read. Record shared responses on the class KWLS chart.
- Have students work with a partner to compare and contrast the weather and moons of Jupiter with the weather and moons of Earth. Have them write the information on their compare-and-contrast worksheet. Discuss their responses.

- Have students read the remainder of the book. Remind them to look for and write answers to their KWLS chart questions, as well as to look for information to compare and contrast. Encourage them to add new questions they might have to their chart as they read.

 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:** *I wanted to know how many moons Jupiter has and what they look like. I learned that at least 63 moons of various sizes orbit Jupiter. I read that one of Jupiter's largest moons is named Europa. I also learned that its surface is covered with ice, and underneath there may be a deep, dark ocean of warm water. Scientists think that alien creatures may live in these waters.*
- Ask students to share questions they added to their KWLS worksheet while reading, and ask them what questions were answered (or not answered) in the text.
- Reinforce that asking questions before and during reading, and looking for the answers while reading, keeps readers interested in the topic. It also encourages them to keep reading to find answers to their questions and helps them understand and remember what they have read.
- Point out to students that all of their questions may not have been answered in this text. Brainstorm other sources they might use to locate additional information to answer their questions. Invite students to fill in the final section (S) with information they would still like to know about Jupiter.

Reflect on the Comprehension Skill

- **Discussion:** Review with students the similarities and differences between Earth and Jupiter they wrote on their compare-and-contrast worksheet. Discuss how the information is organized on a Venn diagram.
- **Independent practice:** Have students complete the compare-and-contrast worksheet by identifying one additional similarity and one difference between Earth and Jupiter. If time allows, discuss their answers.
- **Enduring understanding:** This book educates readers about Jupiter and what may lie in its future. Now that you know this information, how does it help you understand the importance of continued scientific exploration and discovery?

Build Skills

Grammar and Mechanics: Irregular past-tense verbs

- Direct students to the last sentence on page 17. Ask them to identify the verbs in the sentence (*threw, collected*). Explain that these are past-tense verbs that describe something that happened in the past. Write the term *past tense* on the board.
- Write the term *present tense* on the board. Explain that present-tense verbs describe something that is happening in the present, or right now. Ask students to name the present-tense forms of *threw* and *collected* (*throw, collect*).
- Point out that the verb *collect* is changed to a past-tense verb simply by adding the suffix *-ed*. Discuss how this is an example of a *regular past-tense verb*. Point out that *throw* is an *irregular past-tense verb* because its past tense is formed without adding the suffix *-ed*.
- Ask students to turn to page 5 and identify the regular past-tense verbs (*called, collided*). Have them identify the present tense of these verbs (*call, collide*). Write these examples on the board under the *present tense* and *past tense* categories.

Lesson Plan *(continued)*

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- Have students identify the irregular past-tense verbs on page 5 (*saw, was, drew, thought, found*). Invite students to identify the present-tense verbs (*see, is, draw, think, find*). Write these examples on the board under the *present tense* and *past tense* categories.
- **Check for understanding:** Write the present-tense verbs *kick, go, and cheer* on the board. Have students work in pairs to create past- and present-tense sentences using these verbs. Have them share their examples aloud.
- **Independent practice:** Have students complete the [irregular-past-tense-verbs worksheet](#). If time allows, discuss their answers.

Word Work: **Pronunciation**

- Review or explain that *pronunciation* refers to how to articulate, or say, a word. Discuss how some words might be difficult to pronounce, such as words from another language. Point out that when authors anticipate difficulty with the pronunciation of a word, they write the word's pronunciation in parentheses directly after the word. This helps readers to say the word and continue to read fluently through the text. Explain that when reading the word aloud with its pronunciation following it, there is no need to say the word twice.
- Tell students that when writing the pronunciation for a word, the word is broken into syllables. Review that a syllable is a part of a word that is spoken with an uninterrupted sound of the voice. Words are broken into syllables by their sound, and each syllable has one vowel sound.
- Direct students to page 14. Ask them to find the pronunciation in parentheses (GAL-uh-LAY-oh). Point out that the word is broken into three syllables, all separated by hyphens. Review or explain that when reading these hyphenated syllables aloud, the syllable(s) in all capital letters are read with more emphasis. Practice pronouncing the name *Galileo* with the class.
- Direct students to page 15. Ask them to find the first pronunciation in parentheses (yu-ROH-puh). Ask students how many syllables the word is broken into (three) and which of the syllables in the word gets the emphasis (the second, ROH). Have students turn to a neighbor and practice pronouncing the word *Europa*. Remind students to emphasize the syllable with capital letters.
- **Check for understanding:** Have students identify the second word on page 15 for which the pronunciation is given in parentheses (EYE-oh). Ask them how many syllables the word has (two). Ask students which syllable gets the emphasis (the first syllable, EYE). Have them turn to a neighbor and practice pronouncing the word *Io*. Listen to individual responses.
- **Independent practice:** Introduce, explain, and have students complete the [pronunciation worksheet](#). If time allows, discuss their answers.

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 share their KWLS chart with someone, explaining how it works and what they learned.

Extend the Reading

Informational Writing Connection

Have students use the Venn diagram they completed on their compare-and-contrast worksheet to write a paper about Earth and Jupiter. If time allows, invite them to illustrate their work and read their writing aloud in small groups.

Visit [Writing A-Z](#) for a lesson and leveled materials on expository writing.

Math Connection

Have students review the text, highlighting the date of each scientific discovery presented in the book. Have students create an appropriately spaced timeline that displays each of the discoveries and its corresponding date. Discuss how science is an ongoing process of discovery.

Assessment**Monitor students to determine if they can:**

- consistently ask relevant questions about a topic prior to and during reading; locate answers to their questions and write them on a worksheet
- correctly identify similarities and differences between Jupiter and Earth during discussion and on a worksheet
- identify and understand the formation of irregular past-tense verbs during discussion and on a worksheet
- understand and read pronunciations in parentheses; identify syllables and emphasis within the syllables during discussion and on a worksheet

Comprehension Checks

- [Book Quiz](#)
- [Retelling Rubric](#)