



## About the Book

Text Type: Nonfiction/Informational Page Count: 16 Word Count: 670

### Book Summary

When you look out your front door, you can probably see your next-door neighbor, the end of the street, or perhaps a store or park in your neighborhood. But what would you see if you were in a spaceship? *Watching Earth From Space* will tell you exactly what you might see—and show you with amazing photographs! This book will also inform you about what scientists learn by being able to see our planet from space and how that information helps all of us.

## About the Lesson

### Targeted Reading Strategy

- Summarize

### Objectives

- Use the reading strategy of summarizing to understand text
- Identify cause-and-effect relationships
- Identify *r*-controlled vowels
- Recognize and understand the use of articles
- Identify and use words with suffix *-ing*

### Materials

Green text indicates resources available on the website

- Book—*Watching Earth From Space* (copy for each student)
- Chalkboard or dry erase board
- Index cards
- Summarize, cause and effect, suffix *-ing* worksheets
- Discussion cards



Indicates an opportunity for students to mark in the book. (All activities may be demonstrated by projecting 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](http://VocabularyA-Z.com).

- Content words:

Story critical: *climate* (n.), *deforestation* (n.), *geography* (n.), *orbit* (n.), *pollution* (n.), *satellites* (n.)

Enrichment: *erosion* (n.), *fossil fuels* (n.), *predict* (v.)

## Before Reading

### Build Background

- Show students pictures with three views, such as the ones on page 5 of the book. Talk about the different camera perspectives that created the photographs. Ask students where they think the photographer was standing when he or she took each photograph.

- If possible, show students the same three perspectives on a computer with Google Maps. Show students the “Traffic View” of their school, then show them the “Satellite View” and “Google Earth View.” Use the “zoom out” feature to demonstrate to students where their school is on the planet. Ask students how they think Google got this information and photographs.

## Preview the Book

### Introduce the Book

- Show students the front and back covers of the book and read the title with them. Ask what they think they might read about in a book called *Watching Earth From Space*. (Accept all answers that students can justify.)
- Show students the title page. Discuss the information on the page (title, author’s name).
- Ask students to turn to the table of contents. Remind them that the table of contents provides an overview of the book. Ask students what they expect to read about in the book, based on what they see in the table of contents. (Accept all answers that students can justify.)

### Introduce the Reading Strategy: **Summarize**

- Have students preview the book, looking at the table of contents, photos, captions, and other text features. Show students the glossary and index, and explain the purpose of each.
- Explain to students that one way to understand and remember information in the book is to write a summary, or a brief overview, of the most important information in a section. Point out that a summary often answers the questions *who*, *what*, *when*, *where*, and *why*.
- Create a chart on the board with the headings *Who*, *What*, *When*, *Where*, and *Why*. Read pages 4 through 6 aloud to students and model summarizing.  
*Think-aloud: To summarize, I need to decide which information is the most important to remember in a section. To do this, I can consider who and what the section was about, what happened, and when and why it happened. Then I can organize that information into a few sentences. The author explains that satellites use cameras while they are in orbit. The International Space Station is one such satellite that has cameras. I will underline the words satellite, cameras, and International Space Station and write them under What on my chart. I will underline 400 km above Earth and write it under Where on my chart. The author says these images are taken by the cameras and that they track changes that are happening on Earth, such as pollution, climate changes, and land changes. I will underline this information in my book and write it under the Why heading on my chart. When I organize all of this information, a summary of the introduction might be: Satellites, such as the International Space Station, orbit high above Earth and have cameras on them. These cameras take pictures and track changes on Earth’s surface.*
- Write the summary on the board. Discuss how you used the information in the chart, along with your own words, to create a summary.
- As students read, encourage them to use other reading strategies in addition to the targeted strategy presented in this section.

### Introduce the Comprehension Skill: **Cause and Effect**

- Explain that many ideas and events are connected to each other. One thing causes, or makes, something else happen. Review or explain that a *cause* is an event that makes something happen, and the *effect* is what happens because of, or as a result of, the event.
- Model how to identify cause-and-effect relationships.  
*Think-aloud: I know that there are reasons, or causes, for events to happen. When I put on a hat, it might be because it is hot outside. The hat shades me from sunlight and keeps me cool. So, a cause for putting on the hat might be because it is hot and I want to stay cool. However, I also sunburn easily. Since a hat shades my face from sunlight, another cause, or reason, to put on a hat might be to prevent me from getting sunburned. Sometimes there is more than one cause associated with an effect.*

## Lesson Plan *(continued)*

## Watching Earth From Space

- Create a two-column chart on the board with the headings *Cause* and *Effect*. Write *I put on a hat* under the *Effect* heading. Ask students to identify from the discussion the two causes for the effect (it is hot outside; to prevent sunburn). Write these under the *Cause* heading.
- Invite students to explain other possible causes for putting on a hat (it is cold, windy, raining; it is part of a costume; and so on).
- Write each of the following sentences on index cards: *I go to sleep; I am tired; I put on my coat; It is cold outside; I drink water; I am thirsty; I eat an apple; I am hungry*. Mix up the cards and give each volunteer a card. Have volunteers find a match to their sentence on one of the other cards. Then have each person in the pair identify who is the cause and who is the effect. Ask the remaining students to explain whether or not the match and explanation are correct.

### Introduce the Vocabulary

- As students preview the book, point out any vocabulary that may be difficult for them. Point out that all of the words that appear in bold print can be found in the glossary at the back of the book.
- Remind students of the strategies they can use to work out words they don't know. For example, they can use what they know about letter and sound correspondence to figure out a word. They can look for base words, prefixes, and suffixes. They can use the context to work out meanings of unfamiliar words.
- Model how to apply word-attack strategies. Write the word *deforestation* on the board and direct students to the text on page 10 to find the word. Model how they can use prior knowledge and context clues to figure out the word's meaning. Ask students to find another word, or base word, in this word (*forest*).
- Show students that by reading past the word they are unfamiliar with, they will find a sentence that provides a clue. In the words following the word *deforestation*, they learn that there is a loss of forests. Explain that students have used what they know about a familiar word together with the context clues to figure out the meaning of the unknown word. Have students follow along as you read the sentence in which it is found to confirm the meaning of the word.
- Remind students that they should check whether a word makes sense by rereading the sentence in which it occurs.

### Set the Purpose

- Have students read to find out more about satellite cameras, stopping after each section to summarize their reading.

## **During Reading**

### Student Reading

- **Guide the reading:** Have students read page 7. Model summarizing important information in the section "Weather Satellites Watch Storms."  
*Think-aloud:* *I made sure to stop reading after this section to summarize what I'd read so far. First, I thought about the information that answered the questions who, what, when, where, and why. Then, in my mind, I organized the important information into a few sentences. In this section, I learned that large storms such as hurricanes can cause a lot of damage, and not all places have storm warning systems to let people know that a storm is coming. I underlined large storms, damage, and let people know. I also learned that satellite images (pictures) help scientists predict where a storm will go. I underlined images from satellites, scientists, predict, and go.*
- Write the underlined information on the chart on the board. Have students share any additional information they underlined that answers the questions *who, what, when, where, and why*. Write this information on the chart. Create a summary with students, on the basis of the information in the chart. (*Large storms can be very damaging, and people don't always know they are coming. Satellite images can help scientists predict where a storm will go.*)

## Lesson Plan *(continued)*

## Watching Earth From Space

- Create a two-column chart on the board with the headings *Cause* and *Effect*. Have students return to page 7 in the book. Write *images taken by orbiting satellites* under the *Cause* heading and *scientists predict where storm will go* under the *Effect* heading. Point out how the images from space causes scientists to predict where the storm is heading.
- Ask students to think about any other effects that could result from the images being taken (for example, people are warned and can escape in time). Write these effects on the chart on the board.
- Introduce and explain the **cause-and-effect worksheet**. Ask students to write the information from the board on their worksheet.



**Check for understanding:** Have students read pages 8 and 9 in their book. Ask students to underline information that answers the questions *who*, *what*, *when*, *where*, and *why* as they read. Divide students into pairs. Have each pair write a brief summary of the section on a separate piece of paper. Have them share and discuss their summaries.

- Write the following cause on the board: *Images from space can show where oil is spreading*. Ask students to use the text to identify an effect of this cause (can help people who live nearby; can help with cleanup efforts; can record how long it takes for environment to recover). Have them write this information on their cause-and-effect worksheet. Discuss their responses as a class.
- Have students read the remainder of the book. Remind them to underline information in each section that answers the questions *who*, *what*, *when*, *where*, and *why*, and to think about cause-and-effect relationships.



Have students make a small 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



Divide students into pairs. Assign each pair one of the remaining sections from the book. Have each group discuss the information they underlined in their section that answers the questions *who*, *what*, *where*, *when* and *why*. Have them use the information to compose an oral summary of their section. When students have finished, share and discuss their summaries aloud. **Think-aloud:** *I know that summarizing keeps me actively involved in what I'm reading and helps me remember what I've read. I know that I will remember more about satellite cameras and their uses because I summarized as I read the book.*

- Introduce, explain, and have students complete the **summarize worksheet** for the section they worked on.

## Reflect on the Comprehension Skill

- **Discussion:** Review with students the information on their cause-and-effect worksheet. Point out that some causes lead to more than one effect. Ask students to identify an event that happened as a result of air pollution (people's health is affected, polluted air drifts to other countries). Have them write the cause and its effects on their worksheet.
- **Independent practice:** Write the following cause from page 12 on the chart on the board: *Images from space show us the effects of Earth becoming warmer*. Have students complete the cause-and-effect worksheet by identifying at least two effects for this cause (they show where ice is melting or breaking apart; they show where land is too dry to grow food or feed farm animals). If time allows, discuss their responses.

## Lesson Plan *(continued)*

## Watching Earth From Space

- **Enduring understanding:** In this book, you read about some of the uses of satellite cameras. Now that you know this information, which use of satellites discussed in the book do you think is most important, and why?


### Build Skills


#### Phonics: **R-controlled vowels**

- Write the word *forest* on the board and point to the *or*. Have students find the word on page 10.
- Tell students that the letters *o* and *r* together stand for the vowel sound they hear in the word *forest*. Explain that the *or* letter combination is one of the letter combinations that stand for a group of sounds called *r-controlled vowels* that make the /or/ sound. Have students turn to page 6. Point out the words *orbiting* and *record*. Have students repeat the words and listen for the /or/ sound.
- **Check for understanding:** Have students brainstorm other examples of *r-controlled /or/ vowels*. Record their responses on the board. Have volunteers circle the letters that make the *r-controlled /or/ vowel sound*.
- **Independent practice:** Assign pages of the story to pairs of students to have them locate additional examples of the /or/ vowel sound. Have student pairs record their examples on the board and circle the letters that make the *r-controlled /or/ vowel sound*.

#### Grammar and Mechanics: **Articles**

- Write the following sentence on the board: *They also show us the effects of too many people living in an area.* Circle the articles *the* and *an* in the sentence. Explain to students that these two small words are called *articles* and that they are used to tell about nouns in general, such as *the dog* or *an apple*. Tell students that the word *a* is another article and that it is used to tell about one specific noun, such as *a dog* or *a camera*.
- Return to the sentence on the board and underline the phrase *an area*. Explain that when a noun starts with a vowel (*area*), the article *an* is used instead of *a*.

 **Check for understanding:** Have students turn to page 4 and circle all of the articles. Ask volunteers to explain the use of each article.

 **Independent practice:** Assign student pairs to various pages of the book. Have them circle or highlight the articles and discuss the use of each one (for example, *a* is used in front of *dangerous storm* because it is labeling one specific storm).

#### Word Work: **Suffix -ing**

- Write the word *watching* on the board. Ask students to identify the root word (*watch*) and write it next to *watching*. Have students use each word in a sentence.
- Explain or review that a *suffix* is a syllable, or group of letters, added to the end of a word to alter or change its meaning or its verb tense. An example of a suffix is *-ing*.
- Write the words *open*, *worry*, and *laugh* on the board. Have students work in pairs, adding the *-ing* suffix to each word (*opening*, *worrying*, and *laughing*). Discuss how, when the *-ing* suffix changes the word, it also changes its meaning, to an ongoing action (verb) or an adjective, depending on how it is used in the sentence.
- **Check for understanding:** Have students turn to page 7 and circle the words with the *-ing* suffix (*warning*, *coming*, *orbiting*).
- **Independent practice:** Introduce, explain, and have students complete the [suffix -ing worksheet](#). Discuss their answers aloud after they are finished.

## Build Fluency

### Independent Reading

- Allow students to read their book independently. Additionally, allow partners to 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 them summarize information in various sections of the book with someone at home.

## Extend the Reading

### Informational Writing and Art Connection

Provide student pairs with print and Internet resources to further research the International Space Station. Have students find out interesting facts, specifically about how it gathers images and sends them back to Earth. Ask each pair to create a small poster with relevant pictures and captions. If time allows, have the student pairs present to one another.

Visit [WritingA-Z.com](http://WritingA-Z.com) for a lesson and leveled materials on informational writing.

### Science Connection

Provide student pairs with appropriate Internet resources to explore global weather patterns. Have student pairs find out how the images are being gathered (via which satellite, if possible) and search for any large storms developing. Have them share their findings with the group.

### 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 summarizing to comprehend text during discussion and on a worksheet
- accurately identify cause-and-effect relationships in the text, during discussion, and on a worksheet
- accurately identify *r*-controlled vowels and the sounds they make from words in the text and during discussion
- correctly understand the use of articles in the text and during discussion
- identify and understand the use of the *-ing* suffix during discussion and on a worksheet

### Comprehension Checks

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