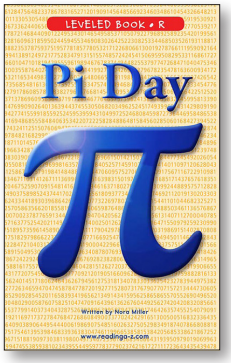

About the Book

Text Type: Nonfiction/Persuasive **Page Count:** 16 **Word Count:** 911

Book Summary

Almost everyone loves pie, but did you know a lot of people love *pi?* Pi is a special number in mathematics, used particularly when measuring circles. Farmers, pilots, scientists, and computer game designers are some of the people who find pi very useful, and people around the world now celebrate pi on March 14 every year. Read on to find out more about pi and how you can celebrate it, too!

About the Lesson

Targeted Reading Strategy

- Summarize

Objectives

- Summarize to understand text
- Identify main idea and details
- Identify and classify nouns
- Identify and understand meanings of homophone pairs

Materials

Green text indicates resources that are available on the website.

- Book—*Pi Day* (copy for each student)
- Chalkboard or dry-erase board
- Sheets of paper
- Highlighters
- Main idea and details/summarize, nouns, homophones 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

*Boldface vocabulary words also appear in a pre-made lesson for this title on VocabularyA–Z.com.

- **Content words:**
  Story critical: ***circumference*** *(n.),* ***decimal point*** *(n.),* ***diameter*** *(n.),* ***digits*** *(n.),* ***divided*** *(v.),* ***pi*** *(n.)*
  Enrichment: ***area*** *(n.),* ***calculate*** *(v.),* ***volume*** *(n.)*

Before Reading

Build Background

- Ask students to raise their hand if they like pie as you write the word *pie* on the board. Ask volunteers to tell their favorite kind and what they like about pie.
- Tell students that you like *pi* also as you write the word on the board. Tell them some things you like about it, for example, it's a number that goes on forever, it is useful in so many ways, and it has its own day of celebration!

- Point out the difference in spelling, and explain to students that these two words are homophones—words that sound alike but are spelled differently and mean two different things. Explain that, while you like *pie,* this book is about a mathematical concept called *pi.*

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). Point out the large symbol for pi on the cover, and explain to students that this is a mathematical symbol, much like a plus, minus, or equal sign.

Introduce the Comprehension Skill: Main idea and details

- Direct students to the table of contents. Remind students that the table of contents provides an overview of what the book is about. Ask students what they expect to find out about in each section.
- Explain that sometimes the amount of information about a topic is so large that it is grouped into sections, and each section has its own main idea. Remind students that it is often useful to pay attention to the section titles for clues about the main idea. This is why engaged readers pay attention to—and don't skip—the section titles.
- Return to the table of contents and point out to students how it is arranged. Explain that there are four main sections: *Introduction, What is Pi?, A Day to Celebrate—Pi Day!* and *How Do People Celebrate Pi Day?*
- Read page 4 aloud. Model identifying the main idea and details of the introduction.
- **Think-aloud:** *While reading, I will make sure to stop after each section to review in my mind the important details. First, I notice that this is a very short introduction to the book—one paragraph. Next, I will decide which of the details are important and which are not. This section explains that* there is a special number called *pi,* which allows people to do many interesting things. *I think that's the main idea for this section.*
- Write the main idea on the board. Ask students to identify the details from the section that support this main idea (for example, *pi* sounds just like the word *pie,* mathematicians use it).
- As students read, encourage them to use other reading strategies in addition to the targeted strategy presented in this section.

Introduce the Reading Strategy: Summarize

- Explain to students that one way to understand and remember information in a book is to write a summary, or a brief overview of the most important information in the text. Point out that a summary includes the main idea and one or two supporting details. It often answers the questions *who, what, when, where, why,* and *how.*
- Model summarizing by using the main idea and details from the first section on the board. **Think-aloud:** *To summarize, I decide which information is most important to the meaning of a section. To do this, I can identify the main idea and important details and then organize that information into a few sentences. This section was so short that I can probably summarize the main idea and details in only one sentence. On the basis of the main idea and details on the board, a summary of this section might be the following:* pi is a special number that mathematicians use to do many interesting things.
- Write the summary on the board. Have students identify the main idea and details within the summary. Discuss how you used your own words to create the summary.

Introduce the Vocabulary

- Write the story-critical vocabulary words *(circumference, decimal point, diameter, digits, divided)* on the board, and read them aloud. Ask students what all these words have in common *(they all relate to math).*
- Turn to the glossary on page 16. Read the words and discuss their meanings aloud.
- Ask a student to read aloud the definition for *pi.* Ask volunteers to identify what other two vocabulary words are included in the definition of pi *(circumference* and *diameter).* Illustrate and emphasize the differences between *circumference* and *diameter* by drawing a circle on the board and labeling each.
- Ask volunteers to illustrate some of the other vocabulary words on the board (for example, they could draw a square and shade it in to represent *area).* Check for accuracy, and guide their illustrations.

Set the Purpose

- Have students read to find out more about pi and Pi Day. Encourage students to summarize while reading.

During Reading

Student Reading

- **Guide the reading:** Have students read pages 3 through 6. Encourage those who finish early to go back and reread.
- Model identifying details:
  Think-aloud: *While reading, I'm making sure to stop after every few pages to review in my mind the important details. First, I reminded myself that the title of this section is "What Is Pi?" This gives me a clue about the main idea of this section. As I read, I notice that the author gives important details about pi. The paragraph mentions when it was discovered and by whom (Archimedes). It goes on to say that he discovered it by measuring circles. William Jones was the first to call this number* pi *and use the Greek symbol for it. On the basis of what I've read, I think the main idea of the section is* pi was discovered more than two thousand years ago.
- Write the main idea on the board. Ask students to identify details that support this main idea (discovered by Archimedes when measuring circles, it's the circumference divided by the diameter, William Jones called it *pi* in 1706 and gave it a special symbol). Write these details on the board.
- Review how to create a summary from the main idea and details. Refer back to the summary created during the Introduce the Reading Strategy section. Discuss and create the summary as a class, and write it on the board. (Pi was discovered by mathematician Archimedes over two thousand years ago, while he was measuring circles. Another mathematician named William Jones first called it *pi* in 1706 and gave it a Greek symbol.)

  Check for understanding: Have students read to the end of page 7. When students have finished reading page 7, have them work in pairs to highlight, underline, or write the main idea in the margin of their book. Compare and discuss responses from the pairs, and decide what to write on the board. Ask volunteers to identify important details from the page. List these on the board also.
- Have students work together on a separate piece of paper to create a summary using the main idea and details listed on the board. Have them share what they wrote. Monitor for understanding and that summary statements are not too lengthy.
- Have students read the remainder of the book. Encourage them to continue identifying the main idea and important details as they read each section of the book.

  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 Comprehension Skill

- **Discussion:** Discuss how stopping to review the important details as they read helped students remember the facts and better understand the information in the book.
- Point out the section titles "A Day to Celebrate—Pi Day!" on page 12 and "How Do People Celebrate Pi Day?" on page 14. Divide students into pairs. Assign each pair one of these two remaining sections of the book. Remind them to think about the section title, decide on a main idea, and underline any important details.
- **Independent practice:** Introduce and explain the main-idea-and-details/summary worksheet to students. Have them write the main idea and details for their assigned page. If time allows, discuss their responses.

Reflect on the Reading Strategy

- Review with students how the main idea and details of each section can be used to develop a summary. Discuss with them the benefits of summarizing information they read (to understand the main point of a larger piece of writing). Invite students to share instances in which summarizing might be helpful.
- **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 the number pi because I summarized as I read the book.*
- **Independent practice:** Have students complete their main-idea-and-details-summary worksheet by writing a summary for their section. If time allows, discuss their responses.
- **Enduring understanding:** In this book, you learned about a very special mathematical number, pi. Now that you know this information, do you think you will celebrate Pi Day? Why or why not?

Build Skills

Grammar and Mechanics: Nouns

- Have students point to the pie in the picture on page 4. Ask students whether the word *pie* is a noun, verb, or adjective. Remind students that a *noun* is a word that identifies a *person, place,* or *thing.* Point out that a pie is a thing; therefore, *pie* is a noun. Explain to students that *pi* is also a thing (a number), so it is a noun also.
- Draw three circles on the board. Label the first circle *person,* the second one *place,* and the third circle *thing.* Have students reread page 6 with a partner and identify the nouns on that page. Call on students to come to the board and add a noun from page 6 to the appropriate circle. Ask other students to confirm each noun is in the correct circle.
- Ask students to give a thumbs-up if *England* and *William Jones* are nouns (add these two nouns to the circles if no student identified them). Point out that *England* and *William Jones* are examples of *proper nouns*—nouns that name a specific person, place, or thing and are always capitalized. Explain that a common noun refers to a general or unnamed person, place, or thing. Emphasize that both proper and common nouns identify people, places, and things. Write a large *P* next to each proper noun.

  Check for understanding: Assign student pairs to a page or section of the book, and ask them to find and highlight all the nouns. Remind them to look for both common and proper nouns. Invite volunteers to come to the board and add a noun they highlighted to the appropriate circle. Have them write a capital *P* next to it if it is a proper noun.
- **Independent practice:** Introduce, explain, and have students complete the nouns worksheet. If time allows, discuss their answers aloud after students finish.

Word Work: Homophones

- Return to the board where you wrote *pie* and *pi.* Point out to students the difference in spelling, and review the differences in meaning of each word. Explain that *pie* and *pi* are examples of *homophones*—words that sound alike but are spelled differently and mean different things.
- Have students read the first sentence on page 5 *(The idea of pi was discovered more than two thousand years ago by a Greek mathematician name Archimedes).* Ask students to highlight or underline the word *two.* Ask volunteers if they know other words that sound exactly like *two* but are spelled differently *(to, too).* Write *two, to,* and *too* on the board. Repeat this process with the second sentence on page 7, asking students for the homophone for right *(write).*
- **Check for understanding:** Have student pairs search for other words in the text that have homophones, for example, the first sentence on page 7 contains the word *four.* Students can then write *for* in the margin. Ask each student pair to find at least one example to share with the group. Monitor for accuracy.
- **Independent practice:** Introduce, explain, and have students complete the homophone worksheet. If time allows, have students discuss their answers after they finish the assignment.

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 a reader summarizes while reading.

Extend the Reading

Informational Writing and Art Connection

Provide Internet resources for students to find out if there is a Pi Day celebration in your community (or one nearby). Citing information from their research, have them design a small poster advertising the event. Encourage them to be creative either with the use of homophones as puns or the digits of pi to highlight the details of the event. Have them add an illustration or photograph to their poster. Require an error-free final copy.

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

Math Connection

To demonstrate the concept of pi, return to page 5 of the text, and provide the materials for students to try the experiment in the Math Minute box. Ask a volunteer to read the directions aloud, or have students work in teams of three, with one member reading the directions. If time allows, have students solve the problem in the Math Minute box on page 6.

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.
- 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 the text during discussion and on a worksheet;
- understand and accurately identify main ideas and details in text, during discussion, and on a worksheet;
- correctly identify and classify nouns in the text, during discussion, and on a worksheet;
- accurately identify and use homophones in the text, during discussion, and on a worksheet.

Comprehension Checks

- Book Quiz
- Retelling Rubric