

About the Book

Text Type: Nonfiction/Informational Page Count: 16 Word Count: 669

Book Summary

Some people can't imagine adding insects to their diet, but in some places, people have eaten insects for hundreds of years. Now these crawling delicacies are growing in popularity around the world. In *Edible Bugs*, learn just how nutritious these insects are and how people in different parts of the globe prepare them. Maps and photographs support the text.

About the Lesson

Targeted Reading Strategy

- Visualize

Objectives

- Visualize while reading informational text
- Compare and contrast information
- Identify vowel digraphs *ea*, *ee*, *ie*
- Recognize and use hyphenated compound adjectives
- Identify and use suffix *-ing*

Materials

Green text indicates resources are available on the website.

- Book—*Edible Bugs* (copy for each student)
- Chalkboard or dry-erase board
- Map of the world
- Visualize, compare and contrast, hyphenated compound adjectives, suffix *-ing* 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: *calories* (n.), *edible* (adj.), *insects* (n.), *nutrients* (n.), *recipes* (n.), *uncomfortable* (adj.)

Enrichment: *calcium* (n.), *chef* (n.), *diets* (n.), *iron* (n.), *poisonous* (adj.), *protein* (n.)

Before Reading

Build Background

- Ask students where most of our food comes from. Discuss with them that farms provide people in the United States with many of the fruits, vegetables, grains, and meat that we find in our kitchens. Ask students if they have visited a farm with livestock. Invite students to share their experiences on a farm. Ask students what is necessary to raise livestock such as cattle or chickens.

- Show students a map of the world. Locate and mark Thailand, China, Ghana, Mexico, Australia, and Japan on the map, and explain to students that they will be learning about what people in these parts of the world like to eat. Ask students what they think the book will be about on the basis of the title, *Edible Bugs*.

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 and author's name).

Introduce the Reading Strategy: **Visualize**

- Explain to students that one strategy effective readers use to understand what they are reading is to make pictures in their mind as they read. Visualizing, or making pictures, helps them remember what they are reading.
- Model how to visualize.
Think-aloud: While I read, I am going to think about the words and the photos in the text. I will use them to visualize, or make a picture in my mind, of what I read. As I continue to read, the pictures I have made in my mind will help me remember and better understand the text.
- Have students practice visualizing. Ask them to close their eyes as you read the first paragraph on page 8. After you finish reading, have students share what they visualized as they listened to the description in the text. Remind students that visualizing, even if it is just in their mind, will help them understand and remember what they have read.
- 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 to students that when reading a book or a story, readers can use strategies to help them understand and remember what they read. One way to organize new information is to explain how two things or ideas are alike and different. Explain to students that this strategy is called *comparing and contrasting*. Write the words *Compare* and *Contrast* on the board. Write the word *alike* under *Compare* and the word *different* under *Contrast*.
- Explain that one way to compare and contrast information is to use a graphic organizer called a *Venn diagram*. Draw a Venn diagram on the board. Explain or review that when comparing and contrasting using a Venn diagram details that are the same are listed in the middle where the circles overlap; details that are different are listed on the corresponding sides.
- Provide a simple model of comparing and contrasting by using two familiar items and complete a Venn diagram as a group. Have students explain how the items are the same and how they are different. Provide an example such as the following: *A pen and a pencil are the same because they are both used for writing. A pencil is different because it has lead instead of ink and usually has an eraser on the end. Pen ink usually cannot be erased, and pens typically have a cap or a lid.* Encourage students to offer additional similarities and differences, and include these in the group comparison.
- As a group, complete the sample Venn diagram. Write the characteristics of the pen and pencil in the correct areas of the diagram. Review the similarities and differences. Encourage students to use the words *alike* or *different* and *compare* or *contrast*.

Introduce the Vocabulary

- As students preview the book, ask them to talk about what they see in the photographs. Reinforce the vocabulary words they will encounter.
- Write the following content vocabulary words on the board: *calories*, *nutrients*, and *uncomfortable*.
- Explain to students that most of the time, engaged readers use context clues to help figure out the meaning of an unfamiliar word in the text. However, sometimes they will not find enough context clues to clearly define the unfamiliar word. Model how students can use a dictionary or glossary to locate a word's meaning. Have a volunteer read the definition for *calories* in the glossary. Have students follow along on page 6 as you read the sentence in which the word *calories* is found to confirm the meaning of the word.
- Point to the word *nutrients* on the board. Repeat the process, reading the definition of *nutrients* in the glossary and reading the sentence in which *nutrients* is found on page 5. Ask students why it would be necessary to look up the root word *nutrient* in the dictionary, without the suffix -s.
- Point to the word *uncomfortable* on the board. Have students read the definition of *uncomfortable* in the glossary and locate the sentence in which *uncomfortable* is found on page 4. Remind students to 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 edible bugs and the countries in which they are consumed. Encourage students to visualize while reading.

During Reading

Student Reading

- **Guide the reading:** Have students read to the end of page 7. Draw a Venn diagram on the board. Label the diagram *Farming* and explain to students that they will be using this diagram to compare the farming of insects and the farming of livestock. Label the left-hand circle *Insect Farming* and the right-hand circle *Livestock Farming*. Explain to students that *livestock* refers to animals that are raised for their meat, including cattle, chickens, pigs.
- Introduce and explain the [compare-and-contrast worksheet](#). Have students copy the appropriate labels from the board onto the worksheet. Say: *On the basis of what I know about farming, I know that whatever is being grown must be fed well. Although insects and livestock eat different foods, this is a similarity between insect farming and livestock farming. I will write the following in the space where the circles overlap:* Insects and livestock must be cared for and fed.
- Ask a volunteer to read page 6 aloud to the class. Ask students what information from page 6 can be added to the Venn diagram and where on the diagram this information should be included. Be sure to include the following: *insect farming does not take up a lot of space, raising cattle uses up a lot of land, insect farming is good for the planet, raising livestock is common, raising insects is not common, meat and insects are both good sources of protein.*
- Have students read the section titled "Bugs Served Around the World" on pages 8 through 12. Model how to visualize. Say: *After reading this section, I will pause and take a moment to visualize what I have read. For example, I will reread the subsection "Thailand" and draw a picture of the images that came to mind as I read. Even though there is a photograph to accompany this section, creating my own image will help me to understand and remember what I have read. One sentence that stands out to me is the description of people adding sauces to their insects as we add mustard or ketchup to a hotdog. I will draw an image of this on the board to help me remember what I have just read.* Draw a picture on the board on the basis of the information in the section "Thailand."

- Introduce and explain the **visualize worksheet**. Have students work with a partner to reread the subsections “China” and “Ghana.” Invite students to draw what they visualized while reading each section on the visualize worksheet. Have students share their illustrations with their partner. Remind students that visualizing is a strategy used by effective readers to remember what they have read.
- Have students read pages 13 through 16 to complete the book. Encourage students to visualize 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

- Reinforce that visualizing while reading keeps readers interested in the topic. It also helps readers to remember what they have read.
- Have students share their images from the visualize worksheet. Invite volunteers to explain how visualizing helps them remember and understand the text.
- Invite students to reread the subsections “Brazil” and “Mexico” with a partner. Have them draw an image for each section on the visualize worksheet.
- Independent practice: Have students work independently to reread the subsections “Australia” and “Japan.” Have them complete the visualize worksheet. If time allows, invite students to share their work with the class.

Reflect on the Comprehension Skill


- **Discussion:** Review with students the similarities and differences between farming insects and farming livestock. Add any new information to the Venn diagram on the board. Discuss how the information is organized in the Venn diagram. Have students add any new information to the compare-and-contrast worksheet.
- Model comparing and contrasting:
Think-aloud: After reading Edible Bugs, I know more about the similarities and differences between farming insects and farming livestock. I learned that farming livestock is a very common practice that uses a lot of land but that insect farming is less common and can be done in very small spaces. Insect farming is much better for the environment. I also learned that both insects and meat are high in protein. Livestock and insect farming are similar in that they both require people to manage and maintain the farms.
- Have students work with a partner to review the compare-and-contrast worksheet. Invite students to verbalize the information on the Venn diagram using words such as *similar* and *different*, *compare* and *contrast*. Have students explain to their partner why using a graphic organizer like a Venn diagram is a helpful tool for remembering and understanding text.
- **Enduring understanding:** Why do you think eating insects is not very popular in the United States? Do you think it is a good idea for people to eat more bugs? Why or why not?


Build Skills

Phonics: **Vowel digraphs ee, ea, ie**

- Write the word *seed* on the board and point to the letters *ee*. Explain to students that the letters *ee* stand for the long vowel /e/ sound they hear in the word *seed*. Explain that the *ee* letter combination is one of the letter combinations that stands for the long vowel /e/ sound. The other combinations are *ea* and *ie*. Explain to students that these combinations of letters together are called *vowel digraphs*.


- Write the words *speed* and *send* on the board and say them aloud. Ask students which word contains the same vowel digraph as in *seed*. Circle the vowel digraph *ee* in the word *speed*. Give other examples if necessary. Ask students to name other words containing the vowel digraph *ee*. Write each example on the board and underline the vowel digraph in each word.
- Have students turn to page 6 and locate the word in the third sentence containing the vowel digraph *ee* (*beef*). Then, have students read the second paragraph on page 6 and locate two words with vowel digraph *ee* (*queens*, *need*).
- Write the word *treat* on the board and ask students what letter combination in this word makes the long vowel /e/ sound. Circle the vowel digraph *ea* in the word *treat*.
- Write the words *team* and *track* on the board and say them aloud. Ask students which word contains the same vowel digraph as in *treat*. Circle the vowel digraph *ea* in the word *team*.
- Have students turn to page 4 and reread the paragraph. Ask students to locate a word in the paragraph that contains the vowel digraph *ea* (*seafood*).
- Write the word *niece* on the board and ask students what letter combination in this word makes the long vowel /e/ sound. Circle the vowel digraph *ie* in the word *niece*.
- Write the words *piece* and *pack* on the board and say them aloud. Ask students which word contains the vowel digraph *ie* as in *niece*. Circle the vowel digraph *ie* in the word *piece*.
- Have students turn to page 6 and reread the page. Ask students to locate a word that contains the vowel digraph *ie* (*calories*).

 **Check for understanding:** Have students work in pairs to reread page 6 and circle all the words with vowel digraphs *ea*, *ee*, and *ie* that make the long vowel /e/ sound (*beef*, *queens*, *calories*, *need*, *calories*).

 **Independent practice:** Have students reread the section titled "Let's Start Cooking!" and circle all the words with the vowel digraphs *ea*, *ee*, and *ie* that make the long vowel /e/ sound (*Seattle*, *eat*, *meatballs*, *cookies*, *believes*, *eating*, *cheap*, *easy*, *reasons*).

Grammar and Mechanics: **Hyphenated compound adjectives**

- Write the following sentence on the board: *The boy ate a tasty bug*. Have a volunteer come to the board and circle the word that describes the bug (*tasty*).
- Review or explain that *adjectives*, such as *tasty*, are words that describe the nouns or pronouns and tell *which one*, *how many*, or *what kind*. Ask a volunteer to underline the noun that the adjective *tasty* describes (*bug*).
- Write the following sentence on the board: *He ate a chocolate-covered grasshopper for a snack*. Have a volunteer come to the board and circle the word that describes the grasshopper (*chocolate-covered*). Explain that this word is an example of a *compound adjective* and the line between the words is a *hyphen*. Point out that each part of a compound adjective alone does not describe the noun as well. For example, it doesn't make sense to describe the grasshopper as just *covered*, and it's not quite as descriptive to describe it as *chocolate grasshopper*, but together the words *chocolate* and *covered* create a compound adjective that accurately describes the noun.
- Write the following sentence on the board: *Mix the ingredients in a medium-size bowl*. Underline the word *bowl*. Have a volunteer come to the board and circle the hyphenated compound adjective that describes the bowl (*medium-size*). Ask students to discuss with a partner the reasons each word in the compound adjective could not describe the noun on its own (it's not very descriptive to say *medium bowl*, and *size bowl* doesn't make sense).

 **Check for understanding:** Have students reread page 11 and underline the hyphenated compound adjectives (*French-fried*, *chocolate-covered*, *candy-covered*). Then, have them circle the noun that each hyphenated compound adjective describes.

- **Independent practice:** Introduce, explain, and have students complete the **hyphenated-compound-adjectives worksheet**. If time allows, discuss their answers aloud after students finish.

Word Work: Suffix -ing

- Write the word *eating* on the board. Ask students to identify the root word (*eat*) and write it next to *eating*. Have students use both words 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 *taste*, *cook*, and *enjoy* on the board. Have volunteers add the suffix *-ing* to each word (*tasting*, *cooking*, *enjoying*). Discuss how, when the suffix is added, it changes the verb tense of the words. The words now describe an action that is happening right now, or in the present tense. Point out that when a word ends with the letter *e*, the *e* must be dropped and then the suffix *-ing* is added, as in the word *tasting*.
- Have students turn to page 4 and read the page aloud. Point out the word *starting* in the second paragraph. Write the word *starting* on the board and circle the word *start*. Discuss with students how adding the suffix *-ing* changed the word to describe how bugs are becoming a more popular food in the United States. Have volunteers use each word in a sentence to demonstrate the difference between *start* and *starting*.
- **Check for understanding:** Have student pairs search for other words with the suffix *-ing* throughout the book. Have them take turns explaining what the root word is.
- **Independent practice:** Introduce, explain, and have students complete the [suffix -ing worksheet](#). If time allows, discuss answers aloud after they are finished.

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 visualizes while reading to better understand and remember the text.

Extend the Reading
Writing and Art Connection

Have students create a class cookbook that includes all insect-based dishes. Provide students with various materials to research different edible insects. Show students several examples of recipes and discuss as a class the necessary components of a recipe: ingredients, measurements, steps in preparation, serving instructions, and so on. Invite students to be creative and think up their own unique recipes. Have students write a final copy of the recipe on a blank sheet of paper and ask them to illustrate their recipe. Finally, gather all the recipes from students and put them together in a class cookbook.

Visit [WritingA-Z.com](#) for a lesson and leveled materials on writing.

Social Studies Connection

Have students choose two countries from those listed in the book. Provide research materials about these countries including Internet access, magazine articles, and nonfiction texts. Invite students to research the two countries and record this information including customs, languages, climate, and so on. Have students create a Venn diagram. Invite students to complete the Venn diagram using the information collected from their research.

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 visualizing the text during discussion and on a worksheet
- correctly compare and contrast information in the text and on a worksheet
- accurately identify vowel digraphs *ee*, *ea*, and *ie* in the text and during discussion
- correctly identify hyphenated compound adjectives in the text, during discussion, and on a worksheet
- consistently identify and correctly use suffix *-ing* synonyms during discussion and on a worksheet

Comprehension Checks

- Book Quiz
- Retelling Rubric