

Focus Question:

How did Jonas Salk achieve his goal of making a difference for humanity?

Book Summary

Text Type: Nonfiction/Biography

The spring and summer of 1953 was terrifying for parents in the United States. They braced themselves for the possibility of polio. Through his determination and unorthodox thinking, Jonas Salk developed a polio vaccine and children's lives were saved. *Jonas Salk* provides students an in-depth look into both Dr. Salk's life and his search for the vaccine. The book can also be used to teach students the elements of a biography and the proper use of hyphenated compound adjectives.

The book and lesson are also available for levels Y and Z2.



Lesson Essentials

Instructional Focus

- ☐ Ask and answer questions while reading
- ☐ Identify the elements of a biography
- ☐ Use headings to make and confirm predictions
- ☐ Recognize and use hyphenated compound adjectives
- ☐ Identify and use synonyms

Materials

- ☐ Book: *Jonas Salk* (copy for each student)
- ☐ Ask and answer questions, elements of a biography, hyphenated compound adjectives worksheets
- ☐ Discussion cards
- ☐ Book quiz
- ☐ Retelling rubric

Vocabulary

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

• Words to Know

Story critical: *epidemic* (n.), *field trial* (n.), *immunity* (adj.), *paralyzed* (v.), *polio* (n.), *vaccine* (n.)

Enrichment: *contagious* (adj.), *devastating* (adj.), *eradicated* (v.), *grant* (n.), *pharmaceutical* (adj.), *placebo* (n.), *quarantine* (v.), *recruited* (v.), *strains* (n.)

- **Academic vocabulary:** *cause* (n.), *method* (n.), *precise* (adj.), *produce* (v.), *protect* (v.), *research* (n.)

Guiding the Reading

Before Reading

Build Background

- Ask students to describe a time when they were very sick. Discuss with students how a doctor helped them to feel well again. Ask whether any students had a flu shot this year. Discuss with students why they were given the shot and what it will do for them.
- Discuss with students that scientists work hard to develop vaccines all the time. Many students have been given a vaccine before they came to school. Explain that Dr. Jonas Salk developed one vaccine they may have been given, a vaccine for polio. Ask students to share anything they know about polio.

Introduce the Book

- Give students their copy of *Jonas Salk*. 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).
- Preview the table of contents on page 3. Remind students that the table of contents provides an overview of the book. Ask students what they expect to read about in the book, on the basis of what they see in the table of contents. (Accept all answers that students can justify.)

Introduce the Reading Strategy:

Ask and answer questions

Explain to students that engaged readers ask and answer questions while they are reading and that one way to ask and answer questions while they read is to make a KWLS chart. Give students the [ask-and-answer-questions worksheet](#). Have students look at the cover of the book and, on the worksheet, complete what they know about Jonas Salk on the basis of the picture or previous discussion during the book introduction. Have students turn to page 4 and look at the photograph. Ask students what questions they might have after viewing

Guiding the Reading (cont.)

the photograph, and reading the sign in it and the caption under it. Have students look through the book's photographs and headings to create questions they might have while reading. Explain to students that they will return to the worksheet later on during reading.

Introduce the Comprehension Skill:

Elements of a biography

- Display a photograph of any person. Ask students to write a list of facts about the person in the photograph. Have students create facts beyond what the person looks like to also include factual information about the person's job, age, family, and so on. Ask students how they know the list of information is factual. Explain to students that they could not know that information unless they had gained it from reliable sources. Explain that a biography is a story of a person's life. It includes facts from reliable resources about the subject's life from birth to either death or present day.
- Have students skim the book to find biographical information about Jonas Salk. Have students classify the information into the *who*, *what*, *when*, *where*, *why*, and *how* categories.

Vocabulary

Have students turn to the "Words to Know" box on the copyright page. Discuss each word with students. Then, have students turn to the glossary on pages 19 and 20. Explain that the glossary provides definitions for the vocabulary words in the book. Point out the use of each content word and academic vocabulary word in the book, and then use each word in a different model sentence. Have students work in groups to create posters for these words. Have them include on each poster the word and its part of speech, the definition, the word in an example sentence, and a picture illustrating the meaning of the word.

Set the Purpose

- Have students read to find out more about Jonas Salk and the development of the polio vaccine. Write the Focus Question on the board. Invite students to look for evidence in the book to support their answer.
- Have students make a small question mark in their book beside any word they do not understand or cannot pronounce. These can be addressed in a future discussion.

During Reading

Text Features: Headings

Explain that headings introduce the information that is going to be in that section of the book. Explain that engaged readers connect what they learn from each heading to the main idea of the book. Read aloud

the first heading, "Summer Terror." Ask students how that might connect to Jonas Salk or to the Focus Question. Have students read the first section. Explain that Dr. Salk was the only person that parents had to give them hope that the terror of polio would be gone. Have partners read the next sections and make connections to Jonas Salk.

Text-Dependent Questions

As students read the book, monitor their understanding with the following questions. Encourage students to support their answers by citing evidence from the book.

- *How did polio affect adults during the spring and summer of 1953?* (level 2) page 5
- *What steps were needed to create a polio vaccine?* (level 1) pages 7 and 8
- *Why do you think Dr. Salk tested the vaccine in children the way he did?* (level 3) page 12
- *How would you elaborate on why Jonas Salk never received a Nobel Prize?* (level 3) multiple pages
- *How would you describe Jonas Salk?* (level 2) multiple pages
- *What did you notice about other scientists, their opinion of Jonas Salk, and the effect it had on him?* (level 2) multiple pages

Skill Review

- Have students refer back to their ask-and-answer-questions worksheet. Ask students to review the questions they asked before they began reading the book. Have students complete the *What I Learned* section. Ask volunteers to share with the class what they learned.
- Review with students what the elements of a biography are. Ask volunteers to give information for one of the six elements of a biography.
- **Think-aloud:** *While reading the book, I can easily find the who of the book. However, finding why the events happened is slightly more difficult. When I read the headings, I see the section called "How to Make a Difference." It says that Salk wanted to do something to help humanity. He wanted to work in medical research. On page 4, I read that he was the nation's one hope for a polio vaccine. I can infer that Salk researched polio because he wanted to help parents and children and was probably one of the few people who could actually do it. I can use that information to fill in the Why did this happen? box on the worksheet.*
- Model how to complete the **elements-of-a-biography worksheet**. Have partners identify details from the book and complete the worksheet.
- Have students write a bio-poem about Jonas Salk. Explain that a bio-poem is a ten-line poem that gives information about a person. The first line is the person's first name. The second line is four traits that describe the person's personality. The third line explains something about the person's life as a child

Guiding the Reading (cont.)

and follows the format *Who was ____ as a child*. The fourth line begins with *Who loves* and describes something the person felt passionately about. The fifth line describes three feelings the person would have felt during his or her lifetime and begins with *Who feels*. The sixth line describes the person's fears and begins with *Who fears*. The seventh line describes the person's needs and begins with *Who needs*. The eighth line describes what the person would like to do and begins with *Who would someday like*. The ninth line explains where the person is from and begins with *From*. The final line is the person's last name. Have students use the graphic organizer to complete their own bio-poem about Jonas Salk.

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.

Skill Review

Graphic Organizer: Ask and answer questions

Guide students back to their ask-and-answer-questions worksheet. Ask if there are any questions that are unanswered or other ideas that came to mind while reading. Have students complete the *What I Still Want to Know* section of the worksheet. Explain that these questions can be researched at a later time.

Comprehension Extension

Discussion cards covering comprehension skills and strategies not explicitly taught with the book are provided for extension activities.

Response to Focus Question

Have students cite specific evidence from the book to answer the Focus Question. (Answers will vary. Reasons should include the following: *Because of his hard work, a safe and working vaccine for polio was developed. Salk protected children from the poliovirus and soldiers from influenza. His vaccines still protect people from these deadly diseases. His method to create vaccines is still used today.*)

Comprehension Checks

- **Book quiz**
- **Retelling rubric**

Book Extension Activities

Build Skills

Grammar and Mechanics:

Hyphenated compound adjectives

- Ask students what an adjective is. Explain to students that *adjectives are words that describe nouns*. Ask

students to think of adjectives that would describe Jonas Salk. Make a list of volunteered answers.

- Explain to students that when more than one adjective used together describe a noun, it is called a *compound adjective*. Compound adjectives have a hyphen to clarify what they are describing. Write the sentence *I saw a man eating alligator* on the board. Ask students what the sentence means (a man is eating alligator). Write a hyphen between *man* and *eating*. Ask students what the sentence means now (an alligator that eats men). Explain that the hyphen is used to clarify the meaning of the two adjectives together.
- Have students turn to page 4. Ask students to look for compound adjectives. Have students underline or highlight the hyphenated compound adjectives throughout the book.
- **Check for understanding:** Have students share with a partner the hyphenated compound adjectives they found. Have the class give a thumbs-up signal if they agree it is a correct example.
- **Independent practice:** Introduce, explain, and have students complete the **hyphenated-compound-adjective worksheet**. If time allows, discuss their answers.

Word Work: Synonyms

- Write the word *synonyms* on the board. Ask students to explain what a synonym is. Ask students to think of a synonym for the word *good*.
- Review the list of synonyms as a class. Read some of them aloud, such as *great*, *wonderful*, *outstanding*, and *magnificent*. Explain to students that each of these words means almost the same as *good*. However, there is a different connotation for each word and *good* seems less "good" than the other synonyms. Explain that different synonyms hold different feelings for readers and that authors use different connotations to convey their meaning when using synonyms.
- Have students look back through the book to find synonyms for the word *sickness*. Have students create a list of the synonyms they find. Encourage them to add any additional synonyms they know of that are not included in the book.
- Have students order the connotations for their synonyms from weakest to strongest. *Sick* or *sickness* should be the weakest where *disease* would be one of the strongest words.
- **Check for understanding:** Have students work in pairs to use a thesaurus to find synonyms for *precise*, *scoffed*, and *credit*. Ask students to list the synonyms according to their strength of connotations.

Connections

- See the back of the book for cross-curricular extension ideas.