



Study Guide

Grade Level: 4



UNIT DESCRIPTION: The purpose of this unit is to explore how nonfiction literature is organized and how the writer through the purposeful use of historical facts and nonfiction structure, assists the reader in comprehending nonfiction literature.

The structures and features to be explored in this unit will include: Chronology, Comparison, Cause/Effect, Problem/Solution, Main Idea/Details, Charts, Graphs, Diagrams, Timelines, Photographs, Indexes, Glossaries, and Vocabulary.

SUGGESTED TIMELINE: Approximately 2-to-3 weeks

CLASS PERIOD: 45 to 60 minutes daily

ESSENTIAL QUESTIONS:

1. How does nonfiction literature differ from fiction?
2. How do authors organize and present information in nonfiction text to aid the reader in understanding the text?
3. How does understanding the author's choices in the use of certain text features and structures assist me as a reader?

TECHNOLOGY RESOURCES:

Reading Nonfiction

<http://www.brainpopjr.com/readingandwriting/readingskills/readingnonfiction>

Understanding Main Idea

<http://brainpop.com/english/writing/mainidea/>

Compare/Contrast Graphic Organizers

http://www.educationoasis.com/curriculum/GO/compare_contrast.htm

Cause/Effect Graphic Organizers

http://educationoasis.com/curriculum/GO/cause_effect.htm

Chain Graphic Organizers: Sequence, Cycle, Time Line, and Chain of Events

<http://www.educationoasis.com/curriculum/GO/sequence.htm>



UNIT TITLE: NOTABLE MISSOURIANS

Jean Jennings Bartik: Computer Pioneer

GRADE LEVEL: 4

UNIT TEACHING ACTIVITY IDEAS:

1. K-W-L Charts
2. World Maps
3. Prediction Charts as they read
4. Descriptive Writing
5. Class Debates
6. Reader's Theatre
7. Newspaper Articles
8. Scrapbooks
9. Character Maps
10. Postcard
11. Diary or journal entries

ESSENTIAL MEASURABLE LEARNING OBJECTIVES	COMMON CORE ANCHOR STANDARD LEARNING GOALS*	GLEs/CLEs	PS	CCSS	DOK
The learner will interpret and explain information provided through the graphic features in nonfiction text.	CCRA.R.5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g. a section or chapter) relate to each other and the whole.	R.3.A.4	1.5 1.6 2.4 3.5	RI.4.7	2
The learner will describe the organizational structures of nonfiction text.	CCRA.R.5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g. section or chapter) relate to each other and the whole.	R.3.A.4 R.3.C.4.A R.3.C.4.B R.3.C.4.C R.3.C.4.D R.3.C.4.E R.3.C.4.F R.3.C.4.J. R.3.C.4.K	1.5 1.6 2.4 3.1 3.4 3.5 3.6 3.7 3.8	RI.4.5	2
The learner will explain how the organizational structures and graphic features aid in the comprehension of nonfiction text.	CCRA.R.10: Read and comprehend complex literary and informational texts independently and proficiently.	R.1.D.4.a R.1.D.4.b R.1.H.4.a		RI.4.10	1 3

GLEs/CLEs: meaning; PS: meaning; DOK: * On the Department of Elementary and Secondary Education website (dese.gov), these standards are known as the Missouri Learning Standards.

TITLE SUMMARY: Jean Jennings Bartik grew up on a Missouri farm, but she dreamed of having adventures and doing things that would change the world. Many people thought women could not work in careers like science and engineering, but Jean proved them wrong. Because she was determined to follow her dreams, Jean helped create the world's first successful electronic computer. Thanks to early computer pioneers like Jean, today we have computers that can do almost anything.



UNIT TITLE: NOTABLE MISSOURIANS

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Jean Jennings Bartik: Computer Pioneer

GRADE LEVEL: 4

TITLE THEMES: science, engineering, computers, technological advancement, programming, women in careers

HISTORICAL RELEVANCE: During a time when most women did not work outside of their home, she pursued her dreams in becoming one of the world's first computer programmers. Her hard work led to the successful creation of the first electronic computer.

KEY VOCABULARY: expeditions, manufacturing, smokehouse, infamy, servicemen, recruiting, telegram, rationed, mechanical calculator, civilian, victory gardens, liaison, patent, trajectory, engineer, floppy disk, pioneer

DISCUSSION QUESTIONS:

1. How do you think Jean Jennings Bartik's experiences in school differ from yours?
2. How did World War II change the view of women in the work force? How did this change their role as U.S. citizens?
3. If you could have a job to help the war effort in the United States during World War II, what would it be?
4. Jean played a role in the advancement of technology, but was not given the credit. Why do you think the men who supervised her were the ones to receive the credit?
5. During Jean's life, people who were considered a "minority" were often not promoted or considered skilled enough for higher positions in the work force. How would you feel if you were in this position? What would you do? Do you still think this problem occurs today?

COMPREHENSION QUESTIONS:

Chapter 1

1. How did having a railroad station improve life for the citizens of Stanberry, MO?
2. What sport did Jean enjoy playing?
3. Why were Grandma Jennings and Aunt Gretchen important role models for Jean?
4. How did her family's view of women impact Jean?

Chapter 2

1. How old was Jean when she started college?
2. What is the date that will live in infamy? Why?
3. How did Jean help out with the war effort?
4. Where did Jean go after graduating from college?

Chapter 3

1. What was the former meaning of "computer?"
2. What sacrifices were made to support the war?
3. What were "victory gardens" and why did they exist?
4. What project did Jean apply for?

Chapter 4

1. What was the job of the first programmable computer?
2. Who solved the problem with the ENIAC? Who received the credit?
3. What was Jean's team able to do after the war ended?



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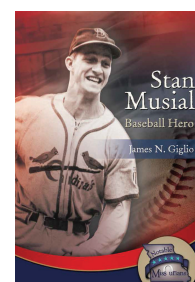
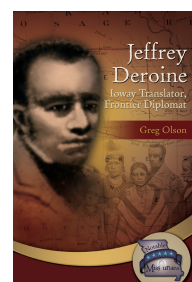
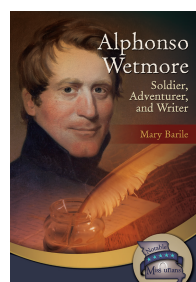
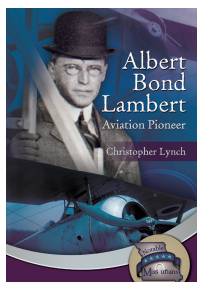
COMPREHENSION QUESTIONS continued:

Chapter 5

1. When did the UNIVC become important? Why?
2. What issues did Jean face in the work place?
3. What made people remember “the forgotten women of ENIAC?”

MISSOURI CONNECTIONS:

- Jean Jennings Bartik Computing Museum—Northwest Missouri State has been involved in computing technology since 1945 when Jean Bartik first took classes in programming. Take an interactive look at the first computing technology that Bartik used in the museum. 800 University Drive, Maryville, MO 64468. Office: (660) 562-1212. <http://www.nwmissouri.edu/COMPSEV/Museum/index.htm>.
- Science Center—Bartik was inspired by exponential growth in the science field. Tour and interact with science exhibits and demonstrations that has been an important part of our world. 5050 Oakland Ave, St. Louis, MO 63110. Office: (314) 289-4400
- Missouri History Museum—When World War II came along, Bartik applied for a job as a computer in Pennsylvania. The Missouri History Museum contains information from WWII. Lindell and DeBaliviere in Forest Park, St. Louis, Missouri. Office: (314) 746-4599 <http://www.mohistory.org/node/234>



Notable Missourians

Other Study Guides Available: Grade Level 4

Alphonso Wetmore: Soldier, Adventurer, and Writer; Albert Bond Lambert: Aviation Pioneer; Jeffrey Deroine: Ioway Translator, Frontier Diplomat; Marie Meyer Fower: Barnstormer; Stan Musial: Baseball Hero

Also available: Olive Boone, Emmett Kelly, Joseph Kinney, Sam Nightingale, Helen Stephens, and Great Walker