

A CURRICULUM GUIDE TO

LOCOMOTIVE

by BRIAN FLOCA



ABOUT THE BOOK

In the 1800s, the steam locomotive was new, exciting, and sometimes even frightening—a large, smoking machine that allowed people to travel faster than they had ever traveled before. As railroads spread, locomotives changed how quickly the country moved, and how connected the country felt. When the transcontinental railroad was completed in 1869, it became possible to travel across the entire continent in only a week—a trip that a few years earlier might have taken six dangerous months of travel by oxen and wagon or by ship.

How did this huge change happen? What was it like to ride on the railroad from Omaha to Sacramento in 1869? How did the steam-powered locomotive work? What jobs were required to make train travel possible? Readers of *Locomotive* first learn how the transcontinental railroad was built and then join a family of travelers on their way to California, discovering the sights and sounds they encounter along the way. Detailed watercolor and ink illustrations, poetic text, and informative introductory material and back matter make history vivid and accessible to intermediate grade readers. This book is an extraordinary example of how text and illustration work together to help readers envision the past.

DISCUSSION QUESTIONS & ACTIVITIES

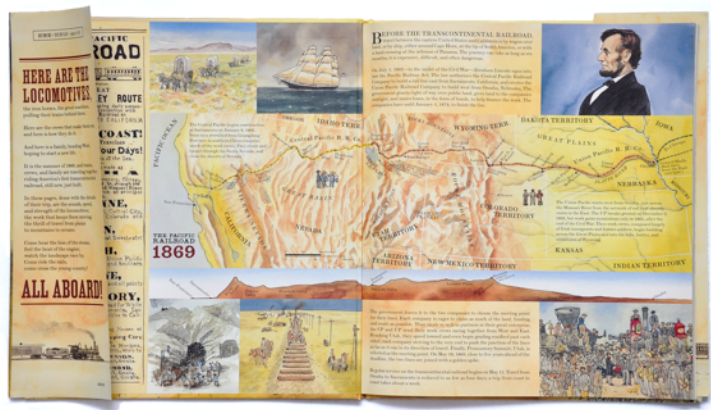
Integration of Knowledge and Ideas (RI 1.7-RI 4.7)

The Common Core State Standards emphasize the importance of teaching students to integrate information from written text and illustrations. The activities below show students how words that appeal to the senses and detailed illustrations work together as sources of information.

1. Close Reading of Front Endpapers to Build Background Knowledge.

Have students begin with a close reading of the front endpapers—the pages inside the front cover—because these pages provide important background information about train travel. Close reading of this material—reading slowly and rereading to focus on the information—will provide a foundation for understanding the rest of the book.

The front endpapers consist of three sources of information that work together to support comprehension: (1) **words** describing train travel, (2) **illustrations** of some of the items mentioned, and (3) **maps**—one showing how the Union Pacific and Central Pacific railroads connected at Promontory Summit, and the other showing elevation.



Here are some suggestions for taking a close look at how these three sources work together:

☞ Encourage the students to first study the paragraphs on the top of the page (“Before the transcontinental railroad...”) and then discuss how the illustrations on the left repeat and extend the information in the paragraphs. For example, the first paragraph states that before the transcontinental railroad, people traveled to California by wagon or boat. One illustration shows how oxen were hitched to covered wagons traveling across the plains. Another shows the kind of ship that sailed around Cape Horn. What information in the illustrations is also given in the paragraphs? What new information is provided only by the illustrations?

☞ Then consider paragraphs and illustrations at the bottom of the page. How do the words and illustrations work together? How does one extend the other?

☞ Study the railroad map at the center of the page. What additional information do the paragraphs at the left and right sides of the map provide?

☞ What does the cross-section showing elevation of the land reveal? (This is an image that can be returned to when the text refers to the landscape in lines such as “The plains rise like a ramp to the foot of the Rockies,” or, regarding the Sierra Nevada, “They rise like a wall on the edge of the basin.”)

☞ What new information does the notice on the left-hand side of the page provide? What information in the notice is also on the map or in the paragraph?

☞ After a close reading and discussion of the endpapers, have the students discuss and/or write about what they now know about the transcontinental railroad. How did the words, the illustrations and the map help them learn this information?

2. Examining Two-Page Spreads for the Integration of Words and Illustration

Many two-page spreads in *Locomotive* can be studied to see how both words and illustrations help us to understand train travel. Here are two examples to examine:

A. Waiting for the Train to Approach the Station

Here are some things to discuss in order to emphasize how words and illustrations work together to help us feel the excitement of the train approaching the station:

☞ The author “points out” or directs the reader to notice things. He uses the words look, listen, hear, and see. He uses words that appeal to our sense of sight (“See a puff from her stack”) and sound (“Hear the clang of the bell”).



☞ The size of illustrations and print changes. As the locomotive approaches the station, the illustrations and the print get larger and larger. **CLANG-CLANG** gets larger and larger as the train gets closer.

WHOO-OOOOO is so large it doesn't fit on the page.

☞ The illustrations have humorous details that are not mentioned in the words. A horse and rider are first seen calmly awaiting the train. Then as the train gets closer, the horse rears up. Finally, the horse runs away.

☞ The reader gets two views of the same event: On the left-hand page, people are at the station looking down the track for the approaching train. On the right, we see what they see as the train approaches.

When taken together, these elements bring the arrival of the train to life. How does this happen? Encourage students to discuss their experience reading and examining this two-page spread to see how words and illustrations complement each other.

B. The Fireman and the Engineer at Work on the Engine

Here are some things to discuss in order to emphasize how the words and illustrations in this two-page spread help us understand the work of the fireman and the engineer:

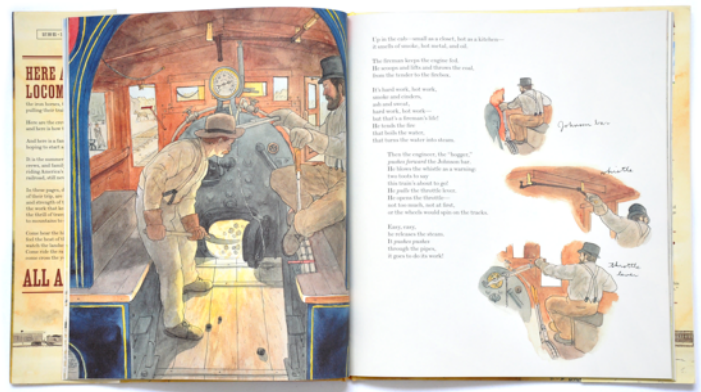
☞ To understand the work of the fireman, the full-page illustration shows him shoveling coal into the firebox. The words add to our understanding by explaining the conditions in the cab. The author uses similes (“small as a closet, hot as a kitchen”) to describe how it feels to be in the cab:

Up in the cab—small as a closet, hot as a kitchen—
It smells of smoke, hot metal, and oil.

He uses repetition (“hard work, hot work”) to help us understand how difficult the work was:

It's hard work, hot work,
Smoke and cinders,
Ash and sweat,
Hard work, hot work
But that's a fireman's life!

☞ To understand the work of the engineer, three separate illustrations on the right-hand side show him using the controls in the cab—the Johnson bar, the whistle, and the throttle lever. The full-page illustration on the left-hand page shows the engineer alongside the fireman so we can see where these controls are located in the cab. We also get the sense of how crowded it was when the two men were working together. While the words mention these controls, the illustrations show us what they look like.







Encourage the students to discuss their experience reading this two-page spread, using information from both the words and the illustrations to understand the work of the fireman and the engineer.

KEY IDEAS AND DETAILS

The CCSS ask students to identify the main idea of a text and explain the key details that support it (RI 3.2, RI 4.2, RI 5.2). Students are also expected to be able to ask and answer questions about the text, using specific evidence from the text to support their answers (RI 1.1, RI 2.1, RI 3.1). The activities below incorporate these skills by focusing attention on key ideas and supporting details.

1. Discuss the following question: What was train travel like in 1869? Ask students to use evidence from the book to talk about the following:

-  The train crew and their jobs
-  The travelers and where they were going
-  The sights along the way
-  The sounds heard during the trip

2. If you could interview one of the following people, what questions would you ask? With a partner, list these questions. Then think about the answers the person would give. Prepare an interview to share with the class.

People to Interview: brakeman, fireman, engineer, conductor, switchman, boy or girl traveler

3. Write a “help wanted” advertisement for a crewmember of the train. This could be the fireman, engineer, conductor, or switchman. In the advertisement, describe the qualifications needed for the job and the specific tasks the person is expected to perform.

4. Imagine that you are either a member of the train crew or a traveler. Write a diary explaining your day. What did you see and hear? What are your thoughts?


5. In what way was train travel in 1869 different from travel today? In what way was it similar?

CRAFT AND STRUCTURE


To learn about craft and structure, the CCSS asks us to help students learn and understand the following: (1) how words and phrases using techniques such as alliteration and repetition create meaning (RL 2.4), (2) how domain specific words and phrases related to a topic are used (RL 3.4, RL 4.4, RL 5.4), and (3) how nonfiction

text features promote understanding (RI 1.5, RI 2.5, RI 3.5). The questions and activities below address these standards.

1. Find and discuss examples of how the author uses well-crafted language to describe the locomotive and train travel. Samples of three techniques—alliteration, repetition, and onomatopoeia—are given below. Read each example aloud and discuss how the language makes you think and feel about the topic. Then, find additional examples of each technique. How does the language used in the book help create meaning?


 **Alliteration** is the repetition of initial consonant sounds. Here’s how the main text begins:

Here is a **r**oad
Made for **c**rossing the **c**ountry,
A new **r**oad of **r**ails
Made for people to **r**ide.

 **Repetition**, or repeating of words and phrases, provides emphasis and rhythm. Here’s how the text explains how engineer releases steam to move the locomotive:

Easy, easy,
he releases the steam.
It *pushes pushes*
through the pipes,
It goes to do its work!

It *pushes pushes pushes* the pistons,
which *push* and *pull* the rods,
The rods, they *swing* and *rise* and *fall*,
and make the drive wheels *turn*.

 **Onomatopoeia** is the use of a word or phrase that imitates the sound of the object it refers to. For example, *meow* sounds like the sound a cat makes. Two other examples are the words *honk* and *buzz*.

Here are some words the author uses to refer to sounds of the locomotive and train travel:

- * chug-chug!
- * clank
- * clang-clang!
- * whoo-oooo
- * huff huff huff!
- * click-clack click-clack click-clack
- * clink!
- * rickety rickety rickety!

- * ka-boom!
- * hiss

Try using alliteration, repetition, and onomatopoeia in your writing. What is the effect?

2. Create an alphabet book of railroad vocabulary. Examine a variety of alphabet books to see how this is done. For example, David M. Schwartz's book, *Q Is for Quark: A Science Alphabet Book* provides a science word for each letter of the alphabet and then explains and illustrates each word. In this book, A is for Atom and B is for Black Hole.

Here are some railroad words to get you started:





- A is for All Aboard!
- B is for Brakeman
- C is for Cab
- D is for Drive Wheel
- E is for Engineer
- F is for Fireman
- G is for Golden Spike


See if you can continue this list until you reach Z is for....

3. Understanding Nonfiction Features: The Back Endpapers. The back endpapers explain how steam power operates a locomotive. With a partner read and discuss each paragraph, referring to the diagram of the inside of a locomotive. Share the gist of each paragraph by summarizing the information in your own words. Point to the items mentioned in the paragraph that are also shown in the diagram. How do these endpapers help you understand how locomotives work?

EXTENDING THE EXPERIENCE

1. Learn more about locomotives like those in the book at the following websites:

-  The California State Railroad Museum: <http://www.csrnf.org>
-  The Golden Spike National Historic Site: <http://www.nps.gov/gosp/index.htm>
-  The Union Pacific Railroad Museum: <http://www.uprrmuseum.org>
-  The Central Pacific Railroad Photographic History Museum: <http://cpr.org>

 Also easy to find online is video footage of engines like those featured in *Locomotive*. Today these engines are known as “4-4-0 American type” locomotives, so search for that term, or simply “4-4-0.” Videos to start with are

“B&O Steam Days and a Cab Ride on the William Mason (in HD)” at <http://www.youtube.com/watch?v=SMeRwbkoxqo>, “Eureka 4-4-0 American Locomotive” at <http://www.youtube.com/watch?v=ILFgxCEcXcM>, and “Steam in the Rockies - Eureka & Palisade 4-4-0 #4 on the Durango & Silverton” at <http://www.youtube.com/watch?v=5MnDBhzMc7Q>.

☞ Then search online to see how steam locomotives grew and evolved over the years, all the way up to Union Pacific’s Challenger-type engines, known as “Big Boys.” A good video of one in action is “Pacing Union Pacific 3985 thru a RR crossing” at <http://www.youtube.com/watch?v=ibuFMpDIQHw>.

2. Learn more about author and illustrator Brian Floca by reading his blog at <http://brianflocablog.blogspot.com/>. Here you will find links to interviews, articles, audio, and video. Also visit www.brianfloca.com to learn more about his books.



Guide written in 2013 by Myra Zarnowski, a professor in the department of Elementary and Early Childhood Education at Queens College, CUNY. Illustrations copyright © 2013 Brian Floca.