

4th Grade Industrial Growth and Expansion Resources

New York State Learning Standards for Social Studies

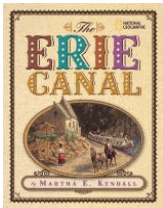
<http://www.p12.nysed.gov/ciai/socst/>

- Transportation, inventions, communication, and technology (e.g., 1800s—Erie Canal, railroads, steamboats, turnpikes, telegraph, cable; 1900s—auto- mobiles, subways, air travel, seaways, telephones, radios and televisions, computer)
- Immigration and migration (e.g., Ellis Island; the mass starvation in Ireland, 1845-50; forced relocation of Native American Indians in New York State)
- The important contributions of immigrants to New York State Geographic influences of industrialization and expansion (e.g., natural resources, location); the interactions between economic and geographic factors.

Books:

The Erie Canal by Martha E. Kendall (2008)

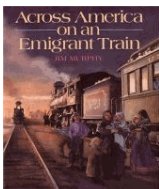
Includes bibliographical references (p. 124-125) and index.; High speed! -- Wedding of the waters -- Solution from a jail cell -- Digging Clinton's ditch -- Well begun, far from done -- All the way - almost -- Locking up and down -- Low bridge -- On the move -- Working like a mule -- At home on a canalboat -- Wheels of progress -- Let's cruise. An exploration of the history of the Erie Canal that discusses its construction and challenges; examines the geographic and social impact of the project; and includes illustrations, maps, a glossary, and a chronology.



Guided Reading: W
128 Pages

Across America on an Emigrant Train by Jim Murphy (1993)

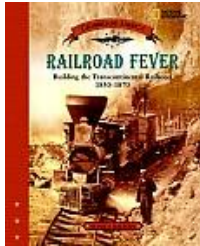
Combines an account of Robert Louis Stevenson's experiences as he traveled from New York to California by train in 1879 and a description of the building and operation of railroads in nineteenth-century America.



Guided Reading: W
150 Pages

Railroad Fever : building the Transcontinental Railroad, 1830-1870 by Monica Halpern (2004)

Railroad Fever illuminates the struggles of the railroad worker, the anger of the Plains Indians, and the many changes in both American life and geography that were prompted by the railroad. The completion of the transcontinental railroad left empty boom towns across the country, changed the ethnic face of America, and, of course, created a new exciting and fast way of travel. Illustrated with period paintings, drawings, and photographs. Also included are a glossary and an index.



Guided Reading: S

40 Pages

Bright Ideas : the age of invention in America, 1870-1910 by Ann Rossi (2005)

Learn how inventive minds work and how they overcame obstacles on the path to their great achievements. Read about the building of a brighter America-one that learned how to make a telephone call from coast to coast and took to the road in Henry Ford's cars built on the first assembly lines.

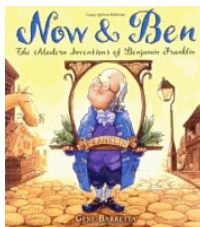


Guided Reading: T

40 Pages

Now and Ben: The Modern Inventions of Benjamin Franklin by Gene Barretta (2006)

Describes some of Ben Franklin's many ideas and inventions, and looks at how they are still being used in the twenty-first century.



Guided Reading: O

34 Pages

Watt Got you started, Mr. Fulton? : A story of James Watt & Robert Fulton by Robert Quackenbush (1982)

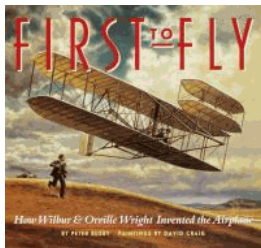
A dual biography focusing on humorous highlights in the lives of James Watt and Robert Fulton, whose respective inventions of the steam engine and the steamboat laid the foundation of modern transportation.



Guided Reading: P
34 Pages

First to Fly : how Wilbur & Orville Wright invented the airplane by Peter Busby (2002)

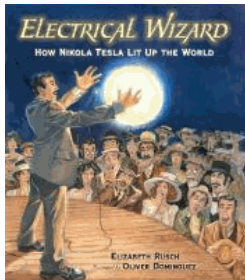
A look at the lives of the Wright brothers, from their childhood interest in flight, through their study of successful gliders and other flying machines, to their triumphs at Kitty Hawk and beyond.



Guided Reading: T
32 Pages

Electrical Wizard: How Nikola Tesla Lit Up the World by Elizabeth Rusch (2013)

A brief biography of Serbian-American scientist Nikola Tesla, whose early fascination with electricity caused him to go on to invent alternating current and many devices that helped bring electricity to American households and, eventually, the rest of the world, at the turn of the twentieth century.



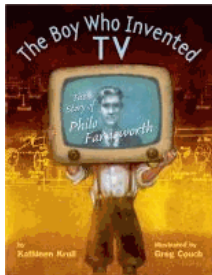
Guided Reading: Q
39 Pages

Marvelous Mattie: how Margaret E. Knight became an inventor by Emily Arnold McNully (2006)
Includes bibliographical references. Describes inventor Margaret E. Knight's childhood, explaining how her interest in mechanical innovations began, and tells the story of her invention of a paper bag maker and her legal battle (and win!) for the patent after a man claimed her idea as his own. Knight, Margaret E., 1838-1914



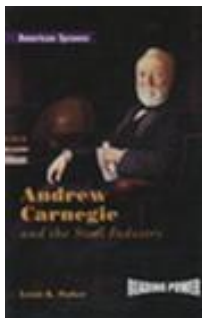
Guided Reading: P
32 Pages

The Boy Who Invented TV : the story of Philo Farnsworth by Kathleen Krull (2009)
This picture-book biography explains how Farnsworth held on to his dream to develop television and the scientific concepts behind it.



Guided Reading: S
34 Pages

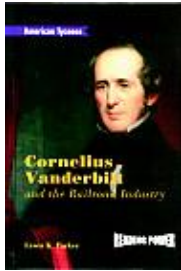
Andrew Carnegie and the Steel Industry by Lewis K. Parker (2003)
Steel is used to make bridges, cars, planes, skyscrapers, and much more. Readers can learn how Andrew Carnegie helped to create a process that made steel easier to make, cheaper to buy, and one of the biggest industries in America.



Guided Reading: N
24 Pages

Cornelius Vanderbilt and the Railroad Industry by Lewis K. Parker (2003)

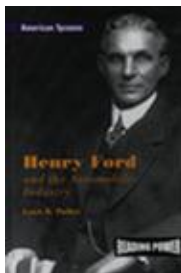
Includes bibliographical references (p. 23) and index. A short biography of Cornelius Vanderbilt, the steamship and railroad tycoon, focusing on his success as a business man. Vanderbilt was a self-made man who made a big impact on the steamboat and railroad industries.



Guided Reading: N
24 Pages

Henry Ford and the Automobile Industry by Lewis K. Parker (2003)

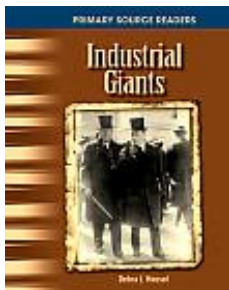
Includes bibliographical references (p. 23) and index.;The early years -- Ford's family --Ford's first car -- Ford's automobile company -- More than cars. Introduces the life of Henry Ford, who is best known for his development of an automobile, the Model T, which was affordable partly due to his use of the first moving assembly line.



Guided Reading: N
24 Pages

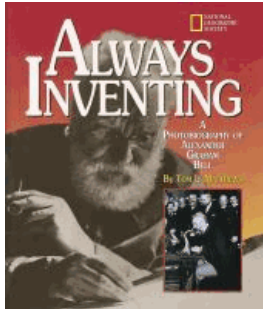
Industrial Giants by Debra Housel (2008)

Includes index. Provides information about the Industrial Revolution in the U.S. and introduces four men who contributed to or took advantage of the new technologies, including Andrew Carnegie, John D. Rockefeller, J.P. Morgan, and Henry Ford.



Guided Reading: S
32 Pages

Always Inventing: a photobiography of Alexander Graham Bell by Tom L. Matthews (1999)
A biography, with photographs and quotes from Bell himself, which follows this well known inventor from his childhood in Scotland through his life-long efforts to come up with ideas that would improve people's lives.



Guided Reading: U
64 Pages

The Radio by Richard Spilsbury (2012)

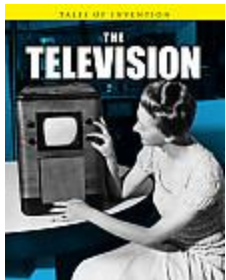
Includes bibliographical references (p. 31) and index.; Radio today -- Pioneers of radio -- The first radio -- Wireless world -- Using radio waves -- Into the future. Examines the evolution of radios, their design, and how they affect today's world.



Guided Reading: W
32 Pages

The Television by Richard Spilsbury (2012)

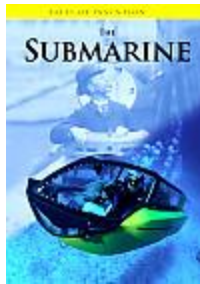
Includes bibliographical references (p. 31) and index. Before television -- Television technology -- The first television -- Television takes off -- Televisions today -- Into the future. Examines the evolution of televisions, their design, and how they affect today's world.



Guided Reading: W
32 Pages

The Submarine by Richard Spilsbury (2011)

Includes bibliographical references (p. 31) and index.; Before submarines -- The first submarines -- Improving submarines -- Submarines with engines -- Exploring the oceans -- Into the future. Examines the evolution of submarines, their design, and how they affect today's world.



Guided Reading: W
32 Pages

The Telephone by Richard Spilsbury (2011)

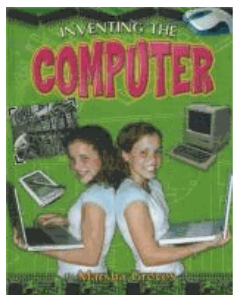
Includes bibliographical references (p. 31) and index.; Before telephones -- Electric messages -- The first telephones -- Improving the telephone -- Cell phones -- Into the future. Examines the evolution of telephones, their design, and how they affect today's world.



Guided Reading: W
32 Pages

Inventing the Computer by Marsha Groves (2007)

This book presents the history of the computer, from the mechanical calculator designed by Gottfried Leibniz in 1685 to construction on ENIAC, the first programmable electronic computer, in 1944 to today's many uses of microprocessors.



Guided Reading: Y
32 Pages

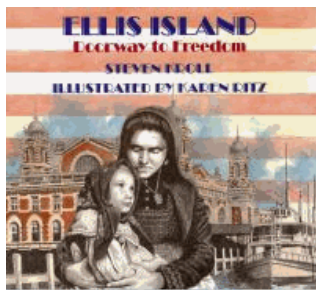
We Are Americans: Voices of the Immigrant Experience by Dorothy and Thomas Hoobler (2003)
A history of immigration to America, from speculation about the earliest immigrants to the present day.



Guided Reading: U
194 Pages

Ellis Island Doorway to Freedom by Steven Kroll (1995)

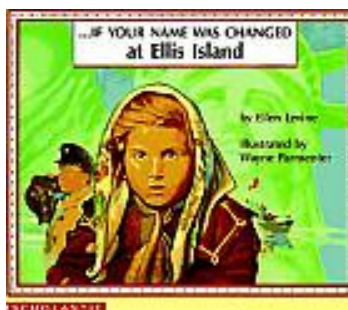
Describes how the immigration station on Ellis Island served as a gateway into the United States for more than sixteen million immigrants between 1892 and 1954.



Guided Reading: S
32 Pages

If Your Name Was Changed At Ellis Island by Ellen Levine (1993)

Describes, in question and answer format, the great migration of immigrants to New York's Ellis Island, from the 1880s to 1914. Features quotes from children and adults who passed through the station.



Guided Reading: Q
80 Pages

Digital Resources

Databases: (To access these databases remotely, ask your librarian for your school's username and password.)

Brainpop Jr.: *Brainpop, Jr. is a database that provides a 3-6 minute video on informational topics followed by a comprehension quiz. The database includes activities and lesson plans as well. It is geared towards grades K-3, but can be used in 4th and 5th grades as well.*

This video offered by Brainpop Jr. that supports New York State Social Studies Standards on Industrial Growth and Expansion for 4th Grade.



Two different online quizzes are offered after each video to check for understanding. They are entitled “Easy” and “Hard” with 5 questions each.

The screenshot shows a 'Hard Quiz' interface. At the top left is a camera icon. The title 'Hard Quiz' is in large red letters, with the instruction 'Click on the best answer.' below it. A right-side icon shows a window with four arrows. The main content area has a green background with a white box containing a table titled 'Ellis Island'. The table has two columns: 'Year' and 'Number of Immigrants'. Below the table is a question: 'Based on the chart, which statement is probably true about Ellis Island?' followed by four multiple-choice options (a, b, c, d).

Year	Number of Immigrants
1904	606,019
1905	788,219
1906	880,036
1907	1,004,756

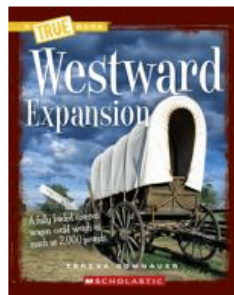
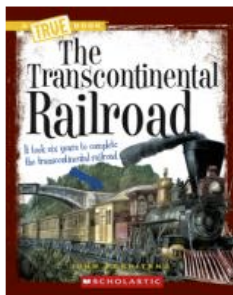
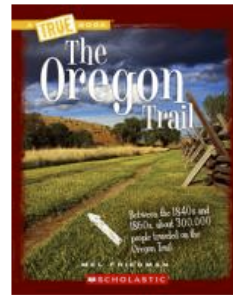
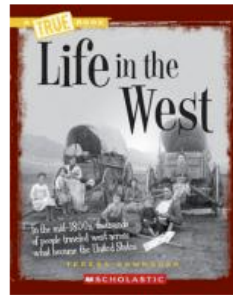
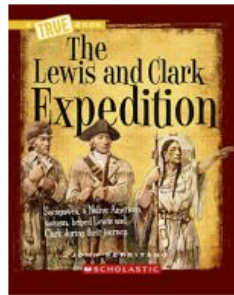
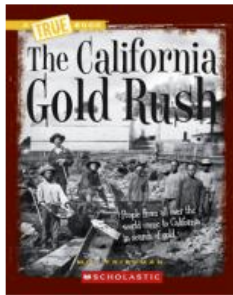
1. Based on the chart, which statement is probably true about Ellis Island?

- (a) The number of immigrants increased in the early 1900s.
- (b) The number of immigrants decreased in the early 1900s.
- (c) The number of immigrants stayed about the same in the early 1900s.
- (d) The number of immigrants went up and down a lot in the early 1900s.

TrueFlix: Trueflix is a database that includes non-fiction electronic books. Within each selected book you will find a 3-6 minute informational video on the subject, and a list of recommended websites.

Trueflix contains these six titles which support the New York State Social Studies Standards on Industrial Growth and Expansion for 4th Grade. The books are 48 pages long, and include a “Read-Along” button which highlights each word as it is read aloud.

Westward Expansion



Here is a sample page from *The Transcontinental Railroad*:

TRUE FLIX™ Table of Contents Read Along OFF

Contents

- 1 Rise of the Rails**
How did people travel in the 1800s? 7
- 2 Finding a Way West**
How did the Civil War affect the transcontinental railroad? 11
- 3 America Gets on Track**
What was life like along the railroad's path? . . . 19
- 4 Working on the Railroad**
What problems did workers face when building the railroad? 27

President Abraham Lincoln

Workers laid more than 1,700 miles of track for the transcontinental railroad.

THE BIG TRUTH!

Railroad Towns
What were railroad towns? 32

5 End of the Line
What changes did the transcontinental railroad bring to the United States? 35

True Statistics 43
Resources 44
Important Words 46
Index 47
About the Author 48

10 MILES OF TRACK LAID IN ONE DAY. APRIL 28TH 1869

4 5

Each subject in *Trueflix* has a part called “Show What You Know.” This is a ten question quiz that can be used to check understanding from the text.

Show What You Know

2. People nicknamed the train the _____.



TRUE

- Legless Lion
- Fast One
- Iron Horse
- Long Wagon

NEXT →

Trueflix also offers word match activity that can be done online. Word match gives a clue that can then be matched with a keyword from the text. As you can see from the toolbar on the left, there are project ideas for the classroom, a list of other non-fiction resources on the same topic in “Explore More,” related websites that have been tested and recommended, and a 3-6 minute video in “Watch the Video.”



Start

Watch the Video

Read the Book

Explore More

Project Idea

Activity Center

- Show What You Know
- Word Match

Explore the Web

More Space

Word Match

Read the clue below. Click on the word it matches.
Match all the words to uncover a picture.

CLUE: people who determine the boundaries of a route by measuring angles and distances with special instruments

gorges	continent	surveyors
graders	immigrants	granite
territories	ties	locomotive

World Book Web:

The World Book Web is a suite of online research tools that includes encyclopedia articles, primary source collections, educator tools, student activities, pictures, audio, and video, complemented by current periodicals and related Web sites. Most all of these World Book Web research tools include options where text can be read aloud to the user. All Ithaca elementary school libraries currently subscribe to **World Book Kids**, **World Book Student**, **World Book Discover**, **World Book Timelines** and **World Book Classroom: Early World of Learning**. For specific training in how to use these amazing tools consult Worldbook's training website or ask your school's librarian. <http://www.worldbookonline.com/training/>

World Book Discover has an article called "industrial revolution" which aligns with New York State Social Studies Standards for 4th Grade. You can use this link to access the article on day and night: <http://www.worldbookonline.com/wbdiscover/article?id=ar831029&st=industrial>
OR you can simply type "industrial revolution" in World Book Discover and choose the first article.

The screenshot shows the World Book Discover website interface. At the top, there is a search bar and navigation links for 'Home' and 'My Research'. The main header features the 'WORLD BOOK DISCOVER' logo and a group of children. Below the header, the article content is displayed. On the left, there are options for 'Introduction', 'Other languages', and 'En español'. A translation tool is available, set to 'Arabic'. The main content area includes a 'Tools' section with options like 'Print', 'Save to My Research', 'E-mail Article', 'Save article', 'Highlight search term in text', and 'Enable read-aloud toolbar'. The article title is 'Industrial Revolution', and the text describes the period from the 1700s to the early 1800s, mentioning the use of steam and coal. A 'Comprehension questions' section on the right lists four questions about the Industrial Revolution. An image of a factory with smoking chimneys is shown at the bottom right, with the caption 'Image Smoking factory chimneys'.

For more information, see these other articles in World Book Discover by typing in the keyword in the search bar at the top:

For more information, see these articles:

[Coal](#)
[Factory](#)
[Invention](#)
[Railroad](#)

World Book Discover has an article called “westward movement in America” which aligns with New York State Social Studies Standards for 4th Grade. You can use this link to access the article on day and night:

<http://www.worldbookonline.com/wbdiscover/article?id=ar841119&st=westward>

OR you can simply type “westward” in World Book Discover and choose the first article.

The screenshot shows the World Book Discover website interface. At the top, there is a search bar and navigation links for 'Home' and 'My Research'. The main content area is titled 'Article content' and includes an 'Introduction' section. A sidebar on the left offers 'Other languages' and a translation tool set to 'Arabic'. The main text discusses the westward movement starting in the 1600s, mentioning pioneers, difficult terrain, and the concept of a frontier. A small image of covered wagons is included with the caption 'Image Covered wagons'. A 'Tools' box provides options like 'Print', 'Save to My Research', and 'Highlight search term in text'.

World Book Kids offers this puzzle called “Westward Expansion Puzzle” in easy, medium, and hard.

The screenshot shows a puzzle interface with a purple background. At the top, there are three buttons: 'GRID ON', 'GRID OFF', and 'RESTART'. The puzzle itself is a large image of a westward expansion scene, divided into several puzzle pieces. Some pieces are missing, leaving gaps in the image. The scene depicts a group of pioneers on a dirt road, with a covered wagon and a horse-drawn cart. The background shows a mountain range and a river.

Websites:

America's History in the Making

<http://www.learner.org/courses/amerhistory/units/14/>

While the text is too sophisticated for elementary school, there are primary source images and documents on industrialization that could be used.

Library of Congress

<http://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/timeline/riseind/>

Overview on the rise of Industrial America (1876-1900). Information on the American West, Chinese Immigration, and general Immigration to the United States.

Child Labor in Factories

http://www2.needham.k12.ma.us/nhs/cur/Baker_00/2002_p7/ak_p7/childlabor.html

Explains the effect of the industrial labor on children and how many children worked long hours in factory jobs.

Westward Expansion Interactive Map

http://www.eduplace.com/kids/socsci/books/applications/imaps/maps/g5s_u5/

Map shows the progress of western expansion from 1783-1853.

Ellis Island

<http://www.ellisland.org/>

The official site of Ellis Island gives a brief introduction to the museum near the Statue of Liberty in New York Harbor. Many students can probably trace their ancestors to this center, where 12 million immigrants passed on their way to new lives between 1892 and 1954. This is a site of information for prospective visitors to Ellis Island, but it also contains an activity that will engage online visitors to take part in the history of the island.

Ellis Island: the immigrant experience

<http://www.ellisland.org/Immexp/index.asp>

This section of the Ellis Island website is called the Immigrant Experience and includes a timeline on the "Peopling of America" and "Family Histories" of six different American Families.

Statue of Liberty Photo Tour

<http://www.nyctourist.com/liberty1.htm>

NYCtourist.com takes you on this virtual tour of the Statue of Liberty -- from Battery Park, on the ferry, across the water to Liberty Island, and up into the statue itself. The descriptions that accompany the more than 30 photos provide many details of what a visitor experiences on the real tour.

iPad apps:

Unsettled - by VOA (Voice of America)

Cost: Free

A story of U.S. Immigration. Includes over a dozen video clips of the immigrant experience, interactive charts, maps and infographics, archival films, audio and stills.

NYC: Ellis Island - by Museum Planet, LLC

Cost: \$0.99

A comprehensive narrated digital tour of Ellis Island. Students can see registry hall, the examination rooms, holding room, hearing room and the graffiti columns.

U.S. Westward Expansion - by Codeworx LC

Cost: Free

Journey on the Lewis and Clark expedition, match territories acquired by the U.S., and learn about the causes and effects of western expansion.

Migration Paths - by Cousins & Sears Creative Technologists

Cost: Free

This app is a visualization of human migration. It displays annual migration data from the United Nations and layers it over maps.

The Oregon Trail: American Settler - by Gameloft

Cost: Free

Just for fun, create and manage your own frontier town.