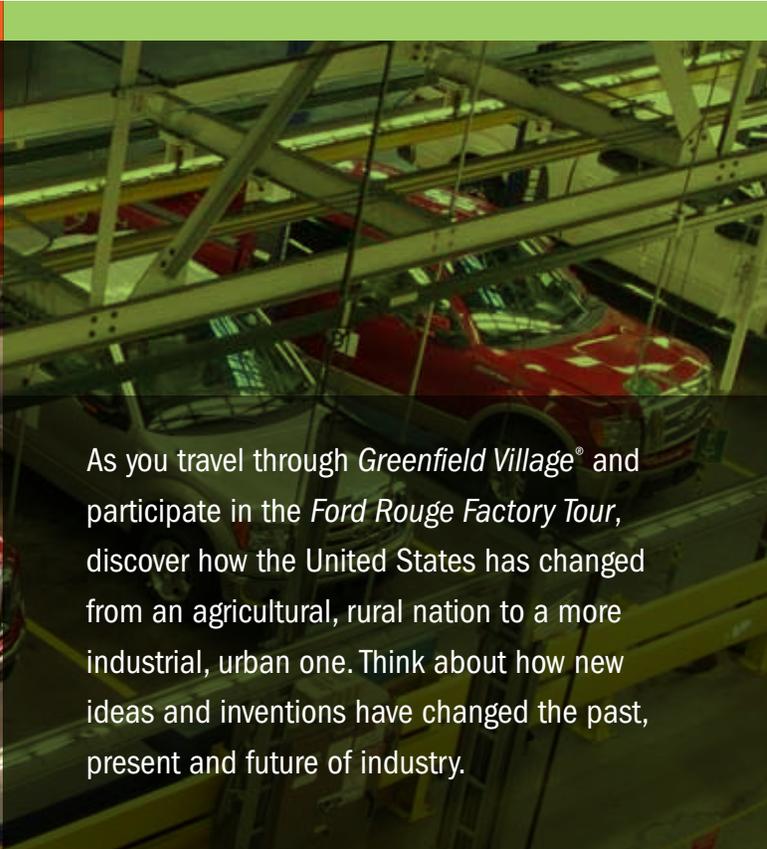
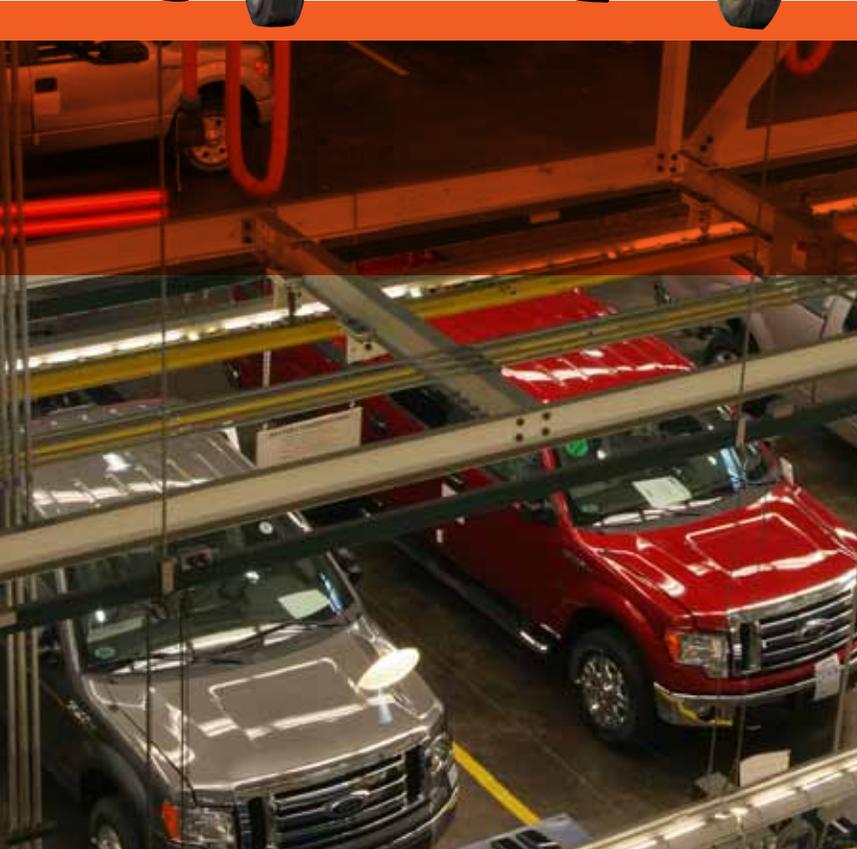


grades
4-6



America's Industrial Revolution

past, present and future



As you travel through *Greenfield Village*® and participate in the *Ford Rouge Factory Tour*, discover how the United States has changed from an agricultural, rural nation to a more industrial, urban one. Think about how new ideas and inventions have changed the past, present and future of industry.

Greenfield Village

America's Industrial Revolution Itinerary

From Home to Factory Production

An important part of the Industrial Revolution was the change from making things by hand at home to making things with machines in factories or mills.

sites to visit: (see Greenfield Village map)

1 Daggett Farmhouse (1760)

- Describe the following steps in making cloth that take place in the Daggett Home:

Carding: _____

Spinning: _____

- Do you think carding and spinning were easy or hard? Why?

- Colonial families like the Daggetts took part in the market economy by buying things that they could not make or grow. Look around the home and find three things that they might have purchased or traded for.

2 Gunsolly Carding Mill (1850-1890)

- Compare and contrast carding at the Daggett Farm and at the Gunsolly Carding Mill.

drawing conclusions:

- How did new technology change the way products were made?

probe ►► | into the 21st century

Check the manufacturing labels on your own clothing. Where is your clothing made today? What are the advantages and disadvantages of making clothing there and in that way?



Agriculture: Regional Differences, Technological Changes

New farming methods and tools became available before the Civil War. However many Southern plantation owners continued to use enslaved labor to plant and harvest their crops.

sites to visit: (see Greenfield Village map)

- 3 Susquehanna Plantation (1860)
- 4 Firestone Farm (1885)

- Compare and contrast Susquehanna Plantation and Firestone Farm

	Susquehanna Plantation	Firestone Farm
Location/Region		
Who were the workers?		
What types of crops did they grow?		
What tools did they use?		

drawing conclusions:

Choose and circle one of the following roles, and then answer the question below. As

- the owner of Susquehanna Plantation,
- an enslaved worker on Susquehanna Plantation,
- the owner of Firestone Farm,

should you purchase new tools and equipment to grow and harvest your crops? Why or why not?

probe ►► into the 21st century

How do you think modern farm work is different from work on Susquehanna Plantation and Firestone Farm? How is it the same?

Greenfield Village Continued

Transporting People and Goods

Railroads made possible the movement and migration of people, products and ideas.

sites to visit: (see Greenfield Village map)

5 Detroit, Toledo & Milwaukee Roundhouse (1884)

- Why did railroads need roundhouses?

- How did railroads change the economy of the United States?

6 J.R. Jones General Store (1886)

- Find four products that are available in this store because of railroads:

probe >>>

What types of transportation are used today for moving people and products? What are the opportunity costs of these types of transportation for producers? What are the opportunity costs of these types of transportation for consumers?

- Railroads brought national-brand name products to Waterford. Which of those products do you still find on store shelves today?

- J.R. Jones faced competition from other Waterford businesses. Can you find some of the advantages or conveniences that this store offered to its customers in the 1880s?

drawing conclusions:

- How did railroads help producers?

- How did railroads help consumers?

Inventing for the People

New inventions and innovations during the Industrial Revolution changed the way we live.

sites to visit: (see Greenfield Village map)

7 Menlo Park Laboratory (1879)

- List two of Thomas Edison's innovations or inventions.

- Are they still used today? If so, how have they changed?

8 George Washington Carver Cabin (1942)

Watch the short video about George Washington Carver when you enter the cabin.

- What were some of George Washington Carver's innovations?



- How did they change farming?

drawing conclusions:

- Some have called Thomas Edison the Wizard of Menlo Park and George Washington Carver the Wizard of Tuskegee Institute. Why do you think they earned these nicknames?

probe ►► into the 21st century

Creativity and innovation are considered essential skills for students and workers today. What can you learn from the experiences of Thomas Edison and George Washington Carver about creativity and innovation that you can apply to your life today?



Ford Rouge Factory Tour

America's Industrial Revolution Itinerary

Factories: Past, Present and Future

The Rouge Complex has changed since its establishment as the largest industrial complex in the world in the 1920s to its rebirth in 2003.

sites to visit: (see Ford Rouge Factory Tour map)

1 Legacy Theater

Watch a film that tells the history of Henry Ford and the Ford Rouge Complex.

- How would you describe the Ford Rouge Factory in the 1920s?

- What did you learn about Henry Ford?

2 Art of Manufacturing Theatre

Enjoy a multi-sensory theater experience that shows the steps in the modern manufacturing process.

- What words describe a modern factory?

- What did you see? What did you hear? What did you feel?

- List some of the specialized jobs involved in making the F-150.

drawing conclusions:

- Why are Henry Ford and the Ford Rouge Complex important to both Michigan and United States history?

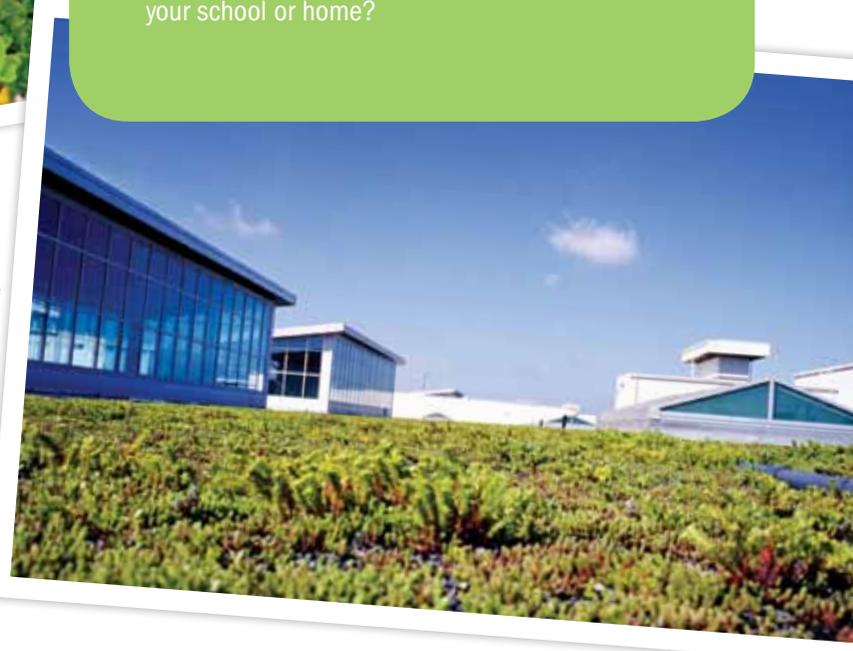
probe  into the 21st century

How do you imagine factories will be different in the future?



probe into the 21st century

What would you like to make more “green” in your school or home?



Green Revolution

William McDonough, a pioneer of green (environmentally friendly) design, worked with the auto industry to design the Dearborn Truck Plant’s many environmental innovations.

sites to visit: (see Ford Rouge Factory Tour map)

Observation Deck

Visit the observation deck to see and hear about the factory’s green design.

- List three of the factory’s environmental innovations:

Innovation?	How it helps the environment, the workplace or the worker?

- What additional innovations can you imagine that would help the environment, the workplace or the workers at the Rouge?

drawing conclusions:

- What do you think are the advantages and disadvantages of these environmental innovations?

Ford Rouge Factory Tour Continued

The Assembly Line: Working Together

Flexible manufacturing at the Dearborn Truck Plant means that computers, workers and robots can work together to make nine different models of the Ford F-150.

site to visit: (see Ford Rouge Factory Tour map)

4 Assembly Plant

Walk above the final assembly line of the Dearborn Truck Plant, where the Ford F-150 is made.

- The division of labor helps get the job done. Watch the videos and watch the workers on the line to see the specific jobs line workers do to assemble an F-150. List some of these jobs.

- Ask a presenter about “lean manufacturing” and “just-in-time.” How do these ideas help prevent waste and keep prices low?

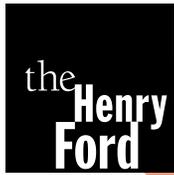


drawing conclusions:

- You have observed only the last steps in manufacturing the F-150. What other steps or jobs do you suppose were required before this final assembly?

probe ►► | into the 21st century

How do you think auto workers' jobs will change in the future? Why?



Greenfield Village

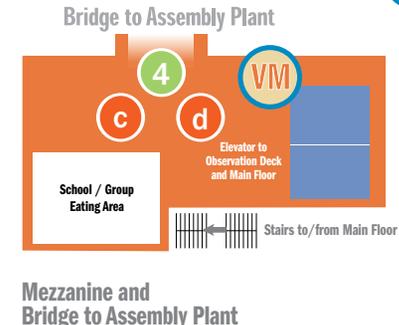
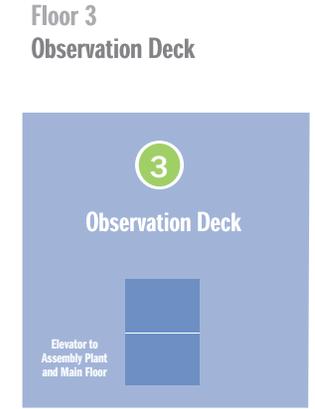
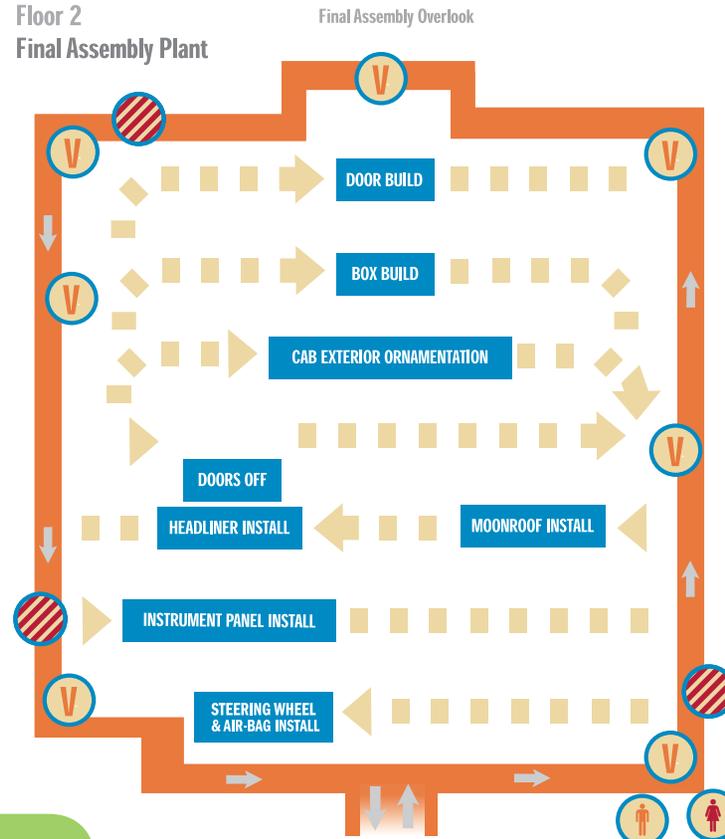
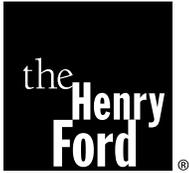
- General Tickets & Membership
 - Gift Shop
 - Restrooms
 - Information
 - Public Telephone
 - Mold-A-Rama Souvenirs
 - Special Needs Rentals
-
- Emergency Issues**
please contact any staff member

sites to visit:

- Home to Factory Production**
 - 1** Daggett Farmhouse
 - 2** Gunsolly Carding Mill
- Agriculture: Regional Differences, Technological Changes**
 - 3** Susquehanna Plantation
 - 4** Firestone Farm
- Transporting People and Goods**
 - 5** Detroit, Toledo & Milwaukee Roundhouse
 - 6** J.R. Jones General Store
- Inventing for the People**
 - 7** Menlo Park Laboratory
 - 8** George Washington Carver Cabin

If you have the time, visit

- Home to Factory Production**
 - a** Weaving Shop
 - b** Cotswold Forge
 - c** Armington and Sims Machine Shop
- Agriculture: Regional Differences, Technological Changes**
 - d** Soybean Lab
- Transporting People and Goods**
 - Weiser Railroad
 - e** Smith's Creek Depot
- Inventing and Entrepreneurship**
 - f** Wright Cycle Shop
 - g** Wright Home



Ford Rouge Factory Tour

- General Tickets and Membership
- Women's Restroom
- Men's Restroom
- Factory Store
- Viewing Platform
- Emergency Exit
- Vending Machine
- Create-a-Memory Rubbing Station

reflective
Post-Visit Thought-Starter

How have new ideas and innovations changed the way we live, work and interact with the environment?

sites to visit:

- Factories: Past, Present and Future
- 1 Legacy Theater
 - 2 Art of Manufacturing Theater
- Green Revolution
- 3 Observation Deck
- The Assembly Line: Working Together
- 4 Assembly Plant

If you have the time, visit

- Factories: Past, Present and Future
- a Legacy Gallery
- Green Revolution
- b Living Laboratory Tour
- The Assembly Line: Working Together
- c Flexing for the Future
 - d Test Drive Smart Tools