

grades  
9-12

# Impact of the Model T – Then and Now

Henry Ford and Innovation

Educator DigiKit





## overview

With the challenges facing us today, the example of the past has never been more relevant. **The Henry Ford** invites you and your students to explore a case study of Henry Ford, his Model T and the automobile industry, past and present, to answer the question, *How do people create society-changing innovations?* with this Educator DigiKit and our digitized artifacts. Students will also investigate causes and consequences of those innovations, as well as examine case studies of some of today's society-changing innovators from **The Henry Ford's** new educational resource, [OnInnovation.com](https://www.oninnovation.com).

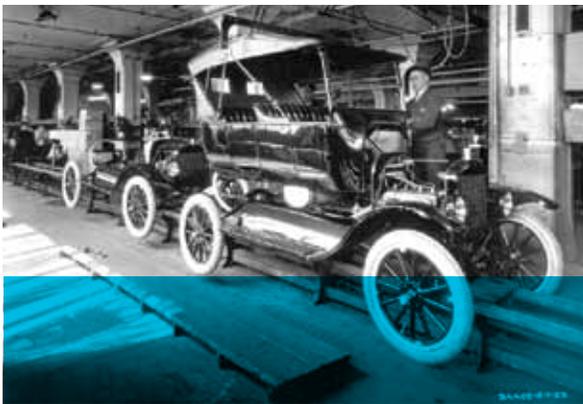
This Educator DigiKit is divided into two sections: a **Teacher Guide** and a **Unit Plan**.

The Teacher Guide section includes resources to complement the *Impact of the Model T – Then and Now* Unit Plan. You will find a glossary, a timeline, context-setting activities, a bibliography, curriculum links and curriculum-supporting field trip suggestions.

The Unit Plan section follows the Teacher Guide and includes lesson plans, student activity sheets, answer keys, culminating project ideas, extension activities and review/assessment questions. Many of the lessons include the use of digitized artifacts from the collections of **The Henry Ford**, which can be accessed through the hyperlinks in the Unit Plan or through our website at [TheHenryFord.org/education](https://www.thehenryford.org/education). If you cannot fit the whole unit into your schedule, use the lessons or activities most relevant to your needs.

This Educator DigiKit promotes educational use of **The Henry Ford's** extensive Transportation in America collections. We hope you and your students will find these resources engaging and relevant.

**These resources are made possible, in part, by the generous funding of the Ford Foundation.**



### mission statement

The Henry Ford provides unique educational experiences based on authentic objects, stories and lives from America's traditions of ingenuity, resourcefulness and innovation. Our purpose is to inspire people to learn from these traditions to help shape a better future.

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# contents

## 2 Overview

## 5 Teacher Guide

- 6 Glossary
- 7 Timeline
- 8 Context-Setting Activities
- 9 Bibliography
- 11 Connections to National and Michigan Standards and Expectations
- 17 Field Trip Learning Enhancement Suggestions

## 19 Unit Plan

### 20 Unit Plan Overview

- 23 Pre-Unit Activity
- 24 Student Activity Sheet: Innovations Survey
- 25 Overarching Question Sign

## 26 Lesson 1

### Innovation

- 28 Student Activity Sheet 1A: Reading Primary Sources: Letter, James H. Bear to Edsel Ford
- 31 Answer Key 1A: Reading Primary Sources: Letter, James H. Bear to Edsel Ford
- 34 Student Activity Sheet 1B: Henry Ford and Innovation

## 35 Lesson 2

### Case Study of an Innovator: Henry Ford

- 37 Student Activity Sheet 2A: Analyzing Artifacts of Henry Ford
- 40 Student Activity Sheet 2B: Henry Ford: Biography of an Innovator
- 43 Answer Key 2B Henry Ford: Biography of an Innovator

## 44 Lesson 3

### Case Study of an Innovation: The Moving Assembly Line and the Industrial Workforce

## 48 Lesson 4

### Case Study of Social Change: Mass Advertising and Consumption in the 1920s

- 51 Student Activity Sheet 4A: Marketing Strategies
- 62 Answer Key 4A: Marketing Strategies
- 68 Student Activity Sheet 4B: Marketing Strategies Essay

## 69 Lesson 5

### Society Changes, Both Intentionally and Unintentionally

- 71 Student Activity Sheet 5A: Legacies of an Innovation
- 74 Student Activity Sheet 5B: Legacies of the Model T and the Assembly Line in Artifacts Today

## 75 Lesson 6

### Innovating: Past, Present and Future

- 77 Student Activity Sheet 6A: Analyzing Our Artifacts
- 79 Student Activity Sheet 6B: Innovating: Past, Present and Future – Essay

## 81 Supplemental Resources

- 82 Culminating Projects
- 83 Extension Activities
- 84 Student Activity Sheet 7: Review/Assessment Questions
- 87 Answer Key 7: Review/Assessment Questions

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Please refer to the online version of the Educator DigiKits for the most updated links and content.



**teacher guide** | grades 9-12

# Glossary

## Consumer

A person or organization that uses goods or services generated in the economy.

## Consumer culture

The idea that the buying of goods or services is a valued cultural activity and that it is not just driven by practical or economic factors.

## Craft system

A system of production in which one person completes the entire operation. The skill and experience of the craftsman are the most important elements in making the product.

## Division of labor

Each worker performs a different small task to eventually complete a final product. This saves time and reduces the amount of training needed to perform one's job. Division of labor is a key aspect of the assembly line.

## Interchangeable parts

Multiple copies of identical parts made by machines that are easily duplicated and quickly assembled into the final product. Interchangeable parts are necessary for mass production.

## Market

The people who use goods and services; the consumers.

## Marketing

The activities involved in transferring goods from the producer to the consumer, including advertising and selling.

## Mass advertising

Advertising that is designed to reach a very large audience. Methods of mass advertising have evolved over time, beginning with ads appearing in mass-circulating newspapers and periodicals and spreading with the advent of radio, billboards, television and the Internet.

## Mass consumption

In some parts of the world, the Industrial Revolution made previously scarce goods readily available. The new jobs created by the Industrial Revolution also brought a rise in the income of the middle class. Therefore, more goods were available and more people had greater spending power, so consumption of goods generally increased. This increase is known as “mass consumption.”

## Mass production

Goods are produced in large numbers and can be sold at low prices.

## Moving assembly line

A system of production in which the work is brought to the workers, generally by conveyor belts, so workers do not have to move around as much. Time is saved and production is faster.

## Niche market

A specific, separate group of consumers who want a particular good or service.

## Producer

A person or organization that creates economic value or produces goods and services.

## Scientific management

Experiments on the processes of work to allow the greatest efficiency. On an assembly line, manufacturing steps are carefully observed and then changed to allow the fastest possible production with as little unnecessary movement as possible.

## Skilled workers

Workers with extensive expertise or training.

## Unskilled workers

Workers without particular expertise or training. Unskilled workers have not learned to make a final product from start to finish but can quickly and easily be taught to perform a small task on the assembly line.

## Unit Plan Timeline

### Henry Ford and Innovation

- 1863 Henry Ford is born in Springwells Township, Michigan.
- 1876 Henry sees his first steam traction engine moving under its own power.
- 1896 Henry completes his first car: the Quadricycle.
- 1903 After failing at two companies, Henry starts Ford Motor Company. Its first car is the Model A.
- 1908 Henry introduces the Model T.
- 1914 Ford Motor Company initiates the \$5 workday.
- 1927 Ford Motor Company ends Model T production.
- 1947 Henry Ford dies at 83 years of age.

### National Events

- 1863 The Emancipation Proclamation goes into effect.
- 1892 Ellis Island opens; 12 million immigrants pass through Ellis Island before it closes in 1954.
- 1901 President William McKinley is shot by an anarchist.
- 1906 San Francisco experiences the great earthquake.
- 1919 The 19th Amendment gives women the right to vote.
- 1929 The stock market crashes, initiating the Great Depression.
- 1941 Pearl Harbor is bombed by the Japanese, and the U.S. enters World War II.

### Other Innovators

- 1867 Wilbur Wright is born in Millville, Indiana.
- 1871 Orville Wright is born in Dayton, Ohio.
- 1879 Thomas Edison develops first practical electric light bulb.
- 1896 George Washington Carver becomes agricultural director at Tuskegee Normal and Industrial Institute, where he educates former slaves and researches crops to help feed the poor.
- 1903 Wilbur and Orville Wright make their first flight at Kitty Hawk, North Carolina.
- 1908 General Electric Company patents the electric toaster.
- 1911 Holt Company adds internal combustion engines to its combines, increasing their grain harvesting potential.
- 1929 Celebration of the light bulb's 50th anniversary in *Greenfield Village*.

### World Events

- 1867 *Das Kapital* by Karl Marx critiques capitalism as exploitive of labor.
- 1871 Germany is unified.
- 1890s Russian imperialism focuses on the Far East.
- 1904 Japan defeats China and annexes Taiwan.
- 1905 Albert Einstein's theory of relativity revolutionizes physics.
- 1914 World War I begins.
- 1931 Penicillin's medicinal properties are discovered by Dr. Florey at Oxford, England.
- 1945 The U.S. drops atomic bombs on Japan; World War II ends.

## Context-Setting **Activities**

These activities are excellent ways to prepare and excite your students for the *Impact of the Model T – Then and Now* unit or for a visit to **The Henry Ford**.

### **Classroom Museum**

Prepare your class to work with **The Henry Ford**'s digitized artifacts by developing your own classroom museum.

Build a “museum collection” of things you can purchase at garage sales or find at home, such as old tools, appliances, clothing, photographs, advertisements, etc. Ask your students to carefully examine the artifacts, perhaps even wearing gloves as museum staff do when handling or examining some types of artifacts. Have your students research how these artifacts were used in the past, how they were made and how they have changed over time. Use their research and observations to create a museum exhibit or produce a creative writing piece focused on the artifacts.

### **Model T Visit**

Model T enthusiast clubs exist all over the country and the world. Contact a local club to see if a member can bring a Model T to your school. Have your class get up close and personal with this artifact by studying its similarities to and differences from cars they know, learning how to start the Model T, discovering what it is like to drive or perhaps going for a ride.

### **Automobile Journal**

Have students keep a daylong or weeklong journal, listing the many ways automobiles affect their daily activities. For instance, by the time they get to school, students may have eaten cereal that was shipped on a truck, left home by walking past or through their garage and ridden to school in a bus or car. Tracking their car-related activities will help students realize the many and various ways that automobiles affect their lives.

# Bibliography

## Print

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Hounshell, David A. Chapter 6: “The Ford Motor Company and the Rise of Mass Production in America,” Chapter 7: “The Limits of Fordism and the Coming of ‘Flexible Mass Production,’” Chapter 8: “The Ethos of Mass Production” in *From the American System to Mass Production, 1800–1932: The Development of Manufacturing Technology in the United States*. Baltimore: Johns Hopkins Press, 1984.

Lacey, Robert. *Ford: The Men and the Machine*. Boston: Little, Brown and Co., 1986.

McCalley, Bruce W. *Model T Ford: The Car That Changed the World*. Iola, WI: Krause Publications, 1994

Olson, Sidney. *Young Henry Ford*. Detroit: Wayne State University Press, 1997.

Watts, Stephen. *The People’s Tycoon: Henry Ford and the American Century*. New York: Knopf, 2005.

## Audiovisual

“Henry Ford: Tin Lizzy Tycoon.” *Biography*. A&E Television Networks, 1994.

“Model T.” *Automobiles*. The History Channel, 1994.

## Online Resources

Speech on “Advancing a Culture of Innovation”  
[oninnovation.com/templates/\\_pdf/THF\\_OnInnovation\\_Advancing\\_A\\_Culture\\_of\\_Innovation.pdf](http://oninnovation.com/templates/_pdf/THF_OnInnovation_Advancing_A_Culture_of_Innovation.pdf)

A speech by Patricia Mooradian, President of **The Henry Ford**, summarizing the institution’s analysis of oral history interviews of leading contemporary innovators.

Automobile in American Life and Society

[autolife.umd.umich.edu/](http://autolife.umd.umich.edu/)

Annotated bibliographies as well as teacher/student resources on topics of race, gender, labor, environment and design as they relate to the automobile in American life and society.

Ford Animated Weekly Excerpts, 1916–1918

[youtube.com/watch?v=JlrjSyngKqM](https://youtube.com/watch?v=JlrjSyngKqM)

YouTube video of historic footage; the first 2:25 minutes include the assembly line and driving Model Ts.

Ford Model T Assembly Line, 1919

[youtube.com/watch?v=Pf8d4NE8XPw](https://youtube.com/watch?v=Pf8d4NE8XPw)

YouTube video of historic footage, with captions, of the Model T assembly line at the Highland Park Plant.

Ford Motor Company Chronology

[thehenryford.org/exhibits/fmc/chrono.asp](http://thehenryford.org/exhibits/fmc/chrono.asp)

Online timeline.

Continued...

## Bibliography Continued

### Online Resources Continued

From the Curators —

Henry Ford and Innovation

[thehenryford.org/education/erb/HenryFordAndInnovation.pdf](https://thehenryford.org/education/erb/HenryFordAndInnovation.pdf)

Information on Henry Ford’s story, the Model T, the assembly line and innovation from the curators of **The Henry Ford**.

On Innovation

[oninnovation.com](https://oninnovation.com)

Oral histories, digitized artifacts, stories and content from some of today’s most visionary thinkers and doers about what thinking and working like an innovator really mean.

The Life of Henry Ford

[thehenryford.org/exhibits/hf/default.asp](https://thehenryford.org/exhibits/hf/default.asp)

Online biography.

From the Curators - Transportation:  
Past, Present and Future

[thehenryford.org/erb/TransportationPastPresentAndFuture.pdf](https://thehenryford.org/erb/TransportationPastPresentAndFuture.pdf)

Information on the American auto industry and its impact, automobile issues today and 20th-century migration and immigration from the curators of **The Henry Ford**.

# Connections to National and Michigan Standards and Expectations

## Michigan High School Content Expectations

### United States History and Geography (USHG)

#### USHG 6.1.5

- A Case Study of American Industrialism – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining
- the impact of resource availability
  - entrepreneurial decision making by Henry Ford and others
  - domestic and international migrations
  - the development of an industrial workforce
  - the impact on Michigan
  - the impact on American society

#### USHG 7.1.1

- The Twenties – Identify and explain the significance of the cultural changes and tensions in the “Roaring Twenties,” including
- the struggle between “traditional” and “modern” America (e.g., role of women, mass consumption) (National Geography Standard 10, p. 203)]

#### USHG 9.1.1

Economic Changes – Using the changing nature of the American automobile industry as a case study, evaluate the changes in the American economy created by new markets, natural resources, technologies, corporate structures, international competition, new sources and methods of production, energy issues and mass communication. (National Geography Standard 11, p. 206)

### Economics (E)

#### E 1.1.2

Entrepreneurship – Identify the risks, returns and other characteristics of entrepreneurship that bear on its attractiveness as a career.

#### E 3.2.5

The Global Economy and the Marketplace – Analyze and describe how the global economy has changed the interaction of buyers and sellers, such as in the automobile industry. (National Geography Standard 13, p. 210)

### World History and Geography (WHG)

#### WHG 6.2.3

- Industrialization – Analyze the origins, characteristics and consequences of industrialization across the world by
- comparing and contrasting the process and impact of industrialization in Russia, Japan and one of the following: Britain, Germany, United States or France
  - describing the social and economic impacts of industrialization, particularly its effect on women and children, and the rise of organized labor movements
  - describing the environmental impacts of industrialization and urbanization.

Continued...

## Connections to National and Michigan Standards and Expectations Continued

### English Language Arts

#### CE 2.1.3

Determine the meaning of unfamiliar words, specialized vocabulary, figurative language, idiomatic expressions and technical meanings of terms through context clues, word roots and affixes, and the use of appropriate resource materials such as print and electronic dictionaries.

#### CE 2.2.3

Interpret the meaning of written, spoken and visual texts by drawing on different cultural, theoretical and critical perspectives.

#### CE 2.3.4

Critically interpret primary and secondary research-related documents (e.g., historical and government documents, newspapers, critical and technical articles, and subject-specific books).

### Michigan Merit Curriculum English Language Arts (ELA)

#### 9-12 ELA

Dispositions and Essential Questions

- 11 How will I know when to risk failure for possible success?
- 11 How can I generate new ideas for solving problems?
- 11 How can I invent new opportunities?

- 11 What are the trade-offs for technological advances?
- 12 What can I do to avoid repeating mistakes made in history?
- 12 How can I create the world I want to live in?

## National History Standards for Grades 5-12 United States

### Era 6: The Development of the Industrial United States (1870-1900)

#### Standard 1

How the rise of corporations, heavy industry and mechanized farming transformed the American people.

#### Standard 1A

The student understands the connections among industrialization, the advent of the modern corporation, and material well-being.

#### Therefore, the student is able to:

- Explain how organized industrial research produced technological breakthroughs, especially the Bessemer steel process, conversion to electrical power and telephonic

- communication, and how these innovations transformed the economy, work processes and domestic life. [Utilize quantitative data]
- Compare various types of business organizations in production and marketing. [Compare and contrast differing sets of ideas]
- Evaluate the careers of prominent industrial and financial leaders. [Assess the importance of the individual in history]
- Examine how industrialization made consumer goods more available, increased the standard of living for most Americans and redistributed wealth. [Utilize quantitative data]
- Compare the ascent of new industries today with those of a century ago. [Hypothesize the influence of the past]

Continued...

## Connections to National and Michigan Standards and Expectations Continued

### Standard 1D

The student understands the effects of rapid industrialization on the environment and the emergence of the first conservation movement.

#### Therefore, the student is able to:

- Analyze the environmental costs of pollution and the depletion of natural resources during the period 1870–1900. [Utilize visual and mathematical data]
- Explain how rapid industrialization, extractive mining techniques and the “gridiron” pattern of urban growth affected the scenic beauty and health of city and countryside. [Analyze multiple causation]

### Standard 3

The rise of the American labor movement and how political issues reflected social and economic changes.

### Standard 3A

The student understands how the “second industrial revolution” changed the nature and conditions of work.

#### Therefore, the student is able to

- Explain the change from workshop to factory and how it altered the worker’s world. [Analyze cause-and-effect relationships]

- Analyze how working conditions changed and how the workers responded to new industrial conditions. [Explain historical continuity and change]

### Era 7: The Emergence of Modern America (1890-1930)

#### Standard 3

How the United States changed from the end of World War I to the eve of the Great Depression.

#### Standard 3B

The student understands how a modern capitalist economy emerged in the 1920s.

#### Therefore, the student is able to

- Explain how principles of scientific management and technological innovations, including assembly lines, rapid transit, household appliances and radio, continued to transform production, work and daily life. [Examine the influence of ideas]
- Examine the changes in the modern corporation, including labor policies and the advent of mass advertising and sales techniques. [Analyze cause-and-effect relationships]

### National English

### Language Arts Standards

3. Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound–letter correspondence, sentence structure, context, graphics).
7. Students conduct research on issues and interests by generating ideas and questions and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and non–print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
8. Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

## Lesson 1 Innovation

### Michigan High School Content Expectations

#### United States History and Geography (USHG)

##### USHG 6.1.5

- A Case Study of American Industrialism – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining
- the impact of resource availability
  - entrepreneurial decision making by Henry Ford and others
  - domestic and international migrations
  - the development of an industrial workforce
  - the impact on Michigan
  - the impact on American society

#### Economics (E)

##### E 1.1.2

Entrepreneurship – Identify the risks, returns and other characteristics of entrepreneurship that bear on its attractiveness as a career.

#### English Language Arts

##### CE 2.2.3

Interpret the meaning of written, spoken and visual texts by drawing on different cultural, theoretical and critical perspectives.

##### CE 2.3.4

Critically interpret primary and secondary research-related documents (e.g., historical and government documents, newspapers, critical and technical articles, and subject-specific books).

## Lesson 2

### Case Study of an Innovator: Henry Ford

### Michigan High School Content Expectations

#### United States History and Geography (USHG)

##### USHG 6.1.5

- A Case Study of American Industrialism – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining
- the impact of resource availability
  - entrepreneurial decision making by Henry Ford and others
  - domestic and international migrations
  - the development of an industrial workforce
  - the impact on Michigan
  - the impact on American society

#### Economics (E)

##### E 1.1.2

Entrepreneurship – Identify the risks, returns and other characteristics of entrepreneurship that bear on its attractiveness as a career.

## Lesson 3

### Case Study of an Innovation: The Moving Assembly Line and the Industrial Workforce

Michigan High School Content Expectations

#### United States History and Geography (USHG)

##### USHG 6.1.5

A Case Study of American Industrialism – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining

- the impact of resource availability
- entrepreneurial decision making by Henry Ford and others
- domestic and international migrations
- the development of an industrial workforce
- the impact on Michigan
- the impact on American society

#### World History and Geography (WHG)

##### WHG 6.2.3

Industrialization – Analyze the origins, characteristics and consequences of industrialization across the world by

- comparing and contrasting the process and impact of industrialization in Russia, Japan and one of the following: Britain, Germany, United States or France
- describing the social and economic impacts of industrialization, particularly its effect on women and children, and the rise of organized labor movements

#### English Language Arts

##### CE 2.1.3

Determine the meaning of unfamiliar words, specialized vocabulary, figurative language, idiomatic expressions and technical meanings of terms through context clues, word roots and affixes, and the use of appropriate resource materials such as print and electronic dictionaries.

## Lesson 4

### Case Study of Social Change: Mass Advertising and Consumption in the 1920s

Michigan High School Content Expectations

#### United States History and Geography (USHG)

##### USHG 6.1.5

A Case Study of American Industrialism – Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining

- the impact of resource availability
- entrepreneurial decision making by Henry Ford and others
- domestic and international migrations
- the development of an industrial workforce
- the impact on Michigan
- the impact on American society

##### USHG 7.1.1

The Twenties – Identify and explain the significance of the cultural changes and tensions in the “Roaring Twenties,” including

- the struggle between “traditional” and “modern” America (e.g., role of women, mass consumption) (National Geography Standard 10, p. 203)

## Lesson 5

# Society Changes, Both Intentionally and Unintentionally

Michigan High School Content Expectations

### United States History and Geography (USHG)

#### USHG 6.1.5

A Case Study of American Industrialism –

Using the automobile industry as a case study, analyze the causes and consequences of this major industrial transformation by explaining

- the impact of resource availability
- entrepreneurial decision making by Henry Ford and others
- domestic and international migrations
- the development of an industrial workforce
- the impact on Michigan
- the impact on American society

#### USHG 9.1.1

Economic Changes – Using the changing nature of the American automobile industry as a case study, evaluate the changes in the American economy created by new markets, natural resources, technologies, corporate structures, international competition, new sources and methods of production, energy issues and mass communication.

(National Geography Standard 11, p. 206)

### Economics (E)

#### E 1.1.2

Entrepreneurship – Identify the risks, returns and other characteristics of entrepreneurship that bear on its attractiveness as a career.

### Lesson 5 Continued

#### E 3.2.5

The Global Economy and the Marketplace – Analyze and describe how the global economy has changed the interaction of buyers and sellers, such as in the automobile industry. (National Geography Standard 13, p. 210)

### World History and Geography (WHG)

#### WHG 6.2.3

Industrialization – Analyze the origins, characteristics and consequences of industrialization across the world by

- comparing and contrasting the process and impact of industrialization in Russia, Japan and one of the following: Britain, Germany, United States or France
- describing the social and economic impacts of industrialization, particularly its effect on women and children, and the rise of organized labor movements
- describing the environmental impacts of industrialization and urbanization

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## Lesson 6

# Innovating: Past, Present and Future

Michigan High School Content Expectations

### Economics (E)

#### E 1.1.2

Entrepreneurship – Identify the risks, returns and other characteristics of entrepreneurship that bear on its attractiveness as a career.

## Field Trip Learning Enhancement Suggestions

A visit to **The Henry Ford's Henry Ford Museum®**, **Greenfield Village®** or **Ford Rouge Factory Tour** makes history even more real for your students.

**The Henry Ford** has developed a number of resources to reinforce curriculum in a fun way during your visit. Please see the list below.

If you are unable to visit, **The Henry Ford** offers you the next best thing. Visit via the Internet to explore our many sites, educational resources and digitized artifacts from our collections.

Programs and Tools at **The Henry Ford**  
20900 Oakwood Blvd.  
Dearborn, MI 48124  
[thehenryford.org](http://thehenryford.org)

### The Henry Ford

#### History Hunters Scavenger Hunts

History Hunters are online, thematic, educationally relevant scavenger hunts that you and your students can use during your visit to **The Henry Ford**. They are self-directed and will help focus student observation, listening and thinking skills as they explore key aspects of exhibits, sites and artifacts at *Henry Ford Museum*, *Greenfield Village* and *Ford Rouge Factory Tour*.

### Greenfield Village

#### Explore the Model T in Greenfield Village Self-Guided Itinerary

Tour the artifacts, exhibits and sites associated with the development of the Model T. The itineraries are rich with Model T-related stories that provide in-depth information and questions for teachers, group leaders and students.

#### History Hunters

- Investigating the Model T
- Investigating the Making of Inventors: Henry Ford and the Wright Brothers

#### Additional Sites to Visit in Greenfield Village

- Ford Home
- Firestone Farm
- Armington and Sims Machine Shop
- Bagley Avenue Workshop
- Henry Ford Theater
- Ford Motor Company
- Edison Illuminating Company's Station A
- Ride a Model T  
(additional fee required)

### Henry Ford Museum

#### Explore the Model T in Henry Ford Museum Self-Guided Itinerary

Tour the artifacts, exhibits and sites associated with the development of the Model T. The itineraries are rich with Model T-related stories that provide in-depth information and questions for teachers, group leaders and students.

#### Henry's Assembly Line Guided Activity

FREE with Museum admission  
What better way to learn about an assembly line than to work on one? In this hands-on, 20-minute program, your students will work together to assemble a miniature wooden Model T using the station and moving assembly line methods.  
**Offered** Daily, year-round  
**Program Length** 20 minutes  
(Check the daily schedule at *Henry Ford Museum*)

#### Build a Model T Guided Activity

FREE with Museum admission  
Grab a wrench and join in the fun as we celebrate Henry Ford's Model T! Students will gain new perspective about Henry Ford and the car that changed the world as they assist in the assembly of an authentic Model T. Spend as much or as little time as you want in this one-of-a-kind activity led by experienced presenters.  
**Offered** Daily, year-round  
**Program Length** Flexible

Continued...

## Field Trip Learning Enhancement Suggestions Continued

### Henry Ford Museum Continued

#### History Hunters

- Investigating the Model T
- Investigating Inventions in Your Place in Time: 20th-Century America

#### Additional Sites to Visit

in *Henry Ford Museum*

- *Made in America: Manufacturing*
- Agriculture Collections
- *Driving America*

### Ford Rouge Factory Tour

#### The Ford Rouge Complex: A Case Study in Industrialization

Curriculum Connector

This new curriculum-aligned tool for teachers to use with students during and after their *Ford Rouge Factory Tour* visit reinforces field-trip learning when students return to the classroom. At the *Ford Rouge Factory Tour*, students can learn about the natural, human and capital resources needed for manufacturing, the changing face of industrialization, and entrepreneurs in southeastern Michigan. A timeline, glossary, review questions and post-visit activities are included in this easy-to-use and downloadable learning tool.

#### Flexing for the Future Self-Guided Activity

FREE with *Ford Rouge Factory Tour* admission

New methods of production have revolutionized the auto industry. During this 10-minute, hands-on assembly line activity, students work together to discover the flexibility of the modern moving assembly line.

Offered Daily

Program Length 10 minutes

#### Test Drive Smart Tools Self-Guided Activity

FREE with *Ford Rouge Factory Tour* admission

Get your hands on one of the technological innovations transforming the American auto industry. Handle a “smart tool” that workers use on the factory floor and simulate steering wheel installation on a Ford F-150 pickup. Discover the connections between advanced tooling (process), skilled workers (people) and the end quality of the vehicle (product).

Offered Daily

Program Length Variable, self-directed

#### History Hunters

- Investigating Manufacturing

## Other Places to Visit

to Learn More about Henry Ford

#### Henry Ford Estate (Fair Lane)

4901 Evergreen  
Dearborn, MI 48128  
313.593.5590  
[umd.umich.edu/fairlane](http://umd.umich.edu/fairlane)

#### Edsel & Eleanor Ford Home

1100 Lake Shore Road  
Grosse Pointe, MI 48236  
313.884.4222  
[fordhouse.org](http://fordhouse.org)

#### Model T Automotive Heritage Complex

461 Piquette Avenue  
Detroit, Michigan 48202  
313.872.8759  
[tplex.org](http://tplex.org)

#### Edison & Ford Winter Estates

2350 McGregor Blvd  
Fort Myers, FL 33901  
239.334.7419  
[efwefla.org](http://efwefla.org)

#### Alberta Village Museum

21235 Alberta Ave.  
L'Anse, MI 49946  
906.524.6181  
[fordcenter.mtu.edu/museum](http://fordcenter.mtu.edu/museum)

**unit plan** | grades 9-12

# Impact of the Model T – Then and Now

## Unit Plan Overview

High School

### Overarching Question

How do people create society-changing innovations?

### Key Concepts

- Innovation
- Vision
- Car for the multitude
- Curious
- Took advantage of opportunities to learn
- Mechanically inclined
- Perseverance after failure
- Willing to take risks
- Able to identify and attract outstanding people
- Visionary
- Craft system
- Mass production
- Moving assembly line
- Interchangeable parts
- Division of labor
- Industrial workforce
- Unskilled workers
- Skilled workers
- Scientific management
- \$5 day
- Market
- Consumer
- Producer

### Key Concepts Continued

- Marketing
- Mass consumption
- Mass advertising
- Consumer culture
- Niche market
- Land use
- Mass automobility
- Infrastructure
- Suburbanization
- Pollution
- Personal mobility/freedom
- Curiosity
- Breaking the rules
- Collaboration
- Recognizing and solving problems that address real needs
- Embracing risk and the lessons of failure

### Lessons and Main Ideas

#### Lesson 1 Innovation

- An innovation is an invention, an idea or an improvement or change that is successfully introduced into and widely adopted by the society at large.
- Henry Ford’s innovative vision was to produce a car for average people.

#### Lesson 2

##### Case Study of an Innovator: Henry Ford

- A successful innovator has qualities that contribute to his/her success.
- Henry Ford used his love of tinkering, his persistence, his willingness to take risks and his ability to build good teams to create the Model T.

#### Lesson 3

##### Case Study of an Innovation: The Moving Assembly Line and the Industrial Workforce

- Henry Ford’s moving assembly line changed the nature of work for many Americans.

#### Lesson 4

##### Case Study of Social Change: Mass Advertising and Consumption in the 1920s

- Everyday people take part in the innovation process through their buying power.
- Henry Ford influenced mass consumption of the Model T with marketing techniques (some innovative, some not).

Continued...

## Unit Plan Overview Continued

High School

### Lesson 5

Society Changes, Both Intentionally and Unintentionally

- Innovations change society in many ways, sometimes unintentionally.
- We have the opportunity to create our own society-changing innovations.

### Lesson 6

Innovating: Past, Present and Future

- Innovators seem to share some key qualities and approaches to their work.
- We all have qualities that can help us be innovators.

**Duration** 10 class periods  
(45 minutes each)

- **Lesson Plans** 8 class periods
- **Unit Project** 2 class periods for in-class work, plus 1 period for presentations

### Field Trips

- *Greenfield Village*
- *Henry Ford Museum*
- *Ford Rouge Factory Tour*

### Assessment

- Performance assessments for each lesson plan
- Culminating projects (see Supplemental Resources)
- Review/assessment questions (see Supplemental Resources)

**Tip** For Connections to National and Michigan Standards and Expectations, see the Teacher Guide.

### Digitized Artifacts

from the Collections of **The Henry Ford**:

#### Lesson 1

##### Innovation

- [Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford](#) ID# THF70573
- [Letter from James H. Bear to Edsel Ford Praising Henry Ford and the Model T, 1938](#) (page 1 ID# THF68267) (page 2 ID# THF68268)
- [First Official Ford Motor Company Portrait of Henry Ford, 1904](#) ID# THF36449

#### Lesson 2

Case Study of an Innovator:  
Henry Ford

- [Westinghouse Portable Steam Engine No. 345, Made circa 1881 and Used by Henry Ford](#) ID# THF74884
- [Henry Ford with Other Employees at Edison Illuminating Company Plant, circa 1895](#) ID# THF22975
- [Ford Quadricycle, 1896, First Car Built by Henry Ford](#) ID# THF3854
- [Detroit Automobile Company Delivery Truck Outside the Factory, 1899-1900](#) ID# THF25005
- [Henry Ford and Ed \(Spider\) Huff Driving the Ford Sweepstakes Racer at Grosse Pointe, Michigan, October 10, 1901](#) ID# THF23800
- [Ford Race Car "Sweepstakes," 1901](#) ID# THF70565
- [Henry Ford and Ford Motor Company Executives at Henry Ford Museum, 1933](#) ID# THF22279
- [Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford](#) ID# THF70573
- [Henry Ford with the First Ford V-8 Engine, March 26, 1932](#) ID# THF22218

Continued...

## Unit Plan Overview Continued

High School

### Lesson 3

#### Case Study of an Innovation: The Moving Assembly Line and the Industrial Workforce

- Swift & Company’s Meat Packing House, Chicago, Illinois, “Splitting Backbones and Final Inspection of Hogs,” 1910-1915 ID# THF32081
- 1924 Ford Model T Cars on Assembly Line at Highland Park Plant, October 1923 ID# THF23577
- Women Workers Assembling Magnetos at Ford Highland Park Plant, circa 1913 ID# THF23810
- Letter to Henry Ford from the Wife of an Assembly Line Worker, 1914 ID# THF32100
- Ford Motor Company Clipping Book, Volume 2, January 6-10, 1914 (page 10 ID# THF68272) (page 11 ID# THF68273)

### Lesson 4

#### Case Study of Social Change: Mass Advertising and Consumption in the 1920s

- Ford Motor Company Sales Leaflet, 1908, “Ford Motor Cars Model T Advance Catalog” ID# THF32124
- Advertisement for the 1924 Ford Model T, “Freedom for the Woman Who Owns a Ford” ID# THF60074
- Ford Motor Company Clipping Book, Volume 2, January 6-10, 1914 ID# THF80232
- Ford Motor Company Advertisement, 1924, “How Did He Ever Get the Money to Buy a Car?” ID# THF32136
- Sales Brochure Featuring the 1925 Ford Model T Sedan, “Her Personal Car” ID# THF32135
- Large Ford Sign at the Rouge Plant above the Train Entrance, circa 1964 ID# THF68322
- Advertisement for the 1925 Ford Model T, “Dependable as the Doctor Himself” ID# THF67880
- Advertisement for the 1904 Ford Line of Cars, “Boosted into Popular Favor by the Knocks of the Trust” ID# THF32117

- Advertisement for the 1924 Ford Model T, “Cancel Distance & Conquer Weather” ID# THF39661
- Advertisement for the 1904 Ford Model A, “One Mile in 39-2/5 Seconds, Ford World’s Record” ID# THF32119
- Advertisement for the 1925 Ford Model T, “Within the Means of Millions” ID# THF32137
- Ford Times Cover, March 1917 ID# THF35039
- Sales Brochure for the 1911 Ford Model T, “Ford Motor Cars: The Good Car for Bad Roads” ID# THF32128
- Newspaper Headline “Gold Rush Is Started by Ford’s \$5 Offer” January 7, 1914 ID# THF21999

Continued...

## Unit Plan Overview Continued

High School

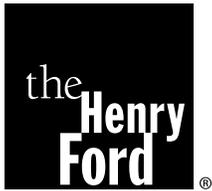
### Materials

- Computers with access to the Internet, digital projector and screen (preferred) OR printed handouts of digitized artifacts' images and descriptions
- Student Activity Sheet: Innovations Survey
- Sign: “How do people create society-changing innovations?”
- Student Activity Sheet 1A: Reading Primary Sources: Letter, James H. Bear to Edsel Ford
- Answer Key 1A: Reading Primary Sources: Letter, James H. Bear to Edsel Ford
- Student Activity Sheet 1B: Henry Ford and Innovation
- Student Activity Sheet 2A: Analyzing Artifacts of Henry Ford
- Student Activity Sheet 2B: Henry Ford: Biography of an Innovator
- Answer Key 2B: Henry Ford: Biography of an Innovator
- Scrap paper – lots
- Full roll of wrapping paper
- Empty wrapping paper tube
- Tape
- 10 feet of continuous flat surface, like desks or tables pushed together
- Student Activity Sheet 4A: Marketing Strategies
- Answer Key 4A: Marketing Strategies
- Student Activity Sheet 4B: Marketing Strategies Essay
- Collection of magazines from last 1-2 years on wide range of topics
- Posterboard
- Scissors
- Markers
- Glue
- Computers with access to the Internet for student use (optional)
- Student Activity Sheet 5A: Legacies of an Innovation
- Student Activity Sheet 5B: Legacies of the Model T and the Assembly Line in Artifacts Today
- Student Activity Sheet 6A: Analyzing Our Artifacts
- Student Activity Sheet 6B: Innovating: Past, Present and Future – Essay
- Culminating Projects
- Extension Activities
- Student Activity Sheet 7: Review/Assessment Questions
- Answer Key 7: Review/Assessment Questions

## Pre-Unit Activity

To set the stage and collect some statistics for students to work with during this unit, distribute Student Activity Sheet: Innovations Survey a few days before beginning the unit. Ask students to use the survey to interview at least 5 friends and family members and to then bring their results to class on the first day of the unit.

Introduce the overarching question by posting the sign “How do people create society-changing innovations?” in a prominent place in the classroom so that it can be referenced throughout the unit.



# innovations survey

Name \_\_\_\_\_

Use this survey to collect and tally answers from family and friends to the questions below. Record any comments on this survey. Use the back if you need more space. Keep this to use with future lessons.

1. Number of people surveyed

\_\_\_\_\_

2. Age of people surveyed

A 0-12 \_\_\_\_\_

B 13-20 \_\_\_\_\_

C 21-40 \_\_\_\_\_

D 41-60 \_\_\_\_\_

E 61-80 \_\_\_\_\_

F 81 or older \_\_\_\_\_

3. What innovation do you think has most changed the way Americans live?

A Automobile \_\_\_\_\_

B Electricity \_\_\_\_\_

C Indoor plumbing \_\_\_\_\_

D Internet \_\_\_\_\_

E Telephone \_\_\_\_\_

F Cellular phone \_\_\_\_\_

G Television \_\_\_\_\_

H Air Conditioning \_\_\_\_\_

I Other \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. What Innovation could you **not** live without?

A Automobile \_\_\_\_\_

B Electricity \_\_\_\_\_

C Indoor plumbing \_\_\_\_\_

D Internet \_\_\_\_\_

E Telephone \_\_\_\_\_

F Cellular phone \_\_\_\_\_

G Television \_\_\_\_\_

H Air Conditioning \_\_\_\_\_

I Other \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# How do people create society-changing innovations



# Lesson 1 Innovation

## Main Ideas

- An innovation is an invention, an idea, an improvement or change that is successfully introduced into and widely adopted by the society at large.
- Henry Ford’s innovative vision was to produce a car for average people.

## Key Concepts

- Innovation
- Vision
- Car for the multitude

## Digitized Artifacts from the Collections of The Henry Ford

### Lesson 1

#### Innovation

- [Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford](#) ID# THF70573
- [Letter from James H. Bear to Edsel Ford Praising Henry Ford and the Model T, 1938](#) (page 1 ID# THF68267) (page 2 ID# THF68268)
- [First Official Ford Motor Company Portrait of Henry Ford, 1904](#) ID# THF36449

## Materials

- Computers with access to the Internet, digital projector and screen (preferred) OR printed handouts of digitized artifacts’ images and descriptions
- Sign: “How do people create society-changing innovations?”
- Student Activity Sheet 1A: Reading Primary Sources: Letter, James H. Bear to Edsel Ford
- Answer Key 1A: Reading Primary Sources: Letter, James H. Bear to Edsel Ford
- Student Activity Sheet #1B: Henry Ford and Innovation

## Duration

One class period (45 minutes)

## Instructional Sequence

### 1 Engagement

Write the questions and answers from the Pre-Unit Student Activity Sheet: Innovations Survey on the board and ask students to add their results. Engage them in a discussion analyzing the results by asking questions such as:

- Which innovations were considered the most society-changing?

- Which innovations did people not want to live without?
- What is one innovation you personally could not live without?
- Did you notice any correlation, or relationship, between what people of various ages said? (For example, those under 40 may not be able to imagine life without cell phones or the Internet.)

Point out the sign displaying the question “How do people create society-changing innovations?” Tell students that during their lifetimes, many innovations will change society. The class will be using Henry Ford and Ford Motor Company as a case study in how one society-changing innovation was created.

Talk with students about the widely held belief that the automobile is a major society-changing innovation. Discuss whether your survey results do or do not support this belief. Share the story of the farm wife who, when asked why her family purchased a Model T instead of indoor plumbing, replied, “You can’t go to town in a bathtub!” Illustrate the story by showing them an image from **The Henry Ford’s** collection of digitized artifacts, [Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford](#) ID# THF70573.

continued...

## Lesson 1 Innovation Continued

### 2 Primary Document Analysis

To reinforce the impact of the Model T on people's lives, you and your class will read and analyze a primary source document. This letter from James H. Bear to Edsel Ford, praising Edsel's father for changing life for farmers and their families, is one piece of evidence of how Henry Ford changed society.

Have students work in small groups or as a whole class using Student Activity Sheet 1A: Reading Primary Sources to read and analyze the [Letter from James H. Bear to Edsel Ford Praising Henry Ford and the Model T, 1938](#) (page 1 ID# THF68267) (page 2 ID# THF68268).

To assist students with the Reading Between the Lines section of Student Activity Sheet 1A: Reading Primary Sources, you may want to have students consider these questions first:

- In the last paragraph, what is the writer hoping?  
*(Ford's spirit will be reincarnated in the President of the United States.)*
- What does the writer think of the current president?  
*(Does not think the president had the proper character.)*
- Who was president at the time this letter was written?  
*(Franklin D. Roosevelt)*
- What big events were occurring in the United States and the world at this time? *(Great Depression; Hitler was mobilizing German army for war.)*

### 3 Innovation and Vision

Ask students to define innovation. Encourage students to think about how innovators go about inventing, improving or changing something. This is an open-ended question, as different innovators have different ways of working. For background information, see [OnInnovation.com](#) and especially “[Speech on ‘Advancing a Culture of Innovation.’](#)”

Tell students that many innovations, such as Henry Ford's Model T, began with a vision. Read them the following quotation, and illustrate it with the image [First Official Ford Motor Company Portrait of Henry Ford, 1904](#) ID# THF36449.

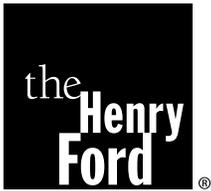
#### “A Car for the Multitude”

I will build a motor car for the great multitude. It will be large enough for the family but small enough for the individual to run and care for. It will be constructed of the best material, by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be so low in price that no man making a good salary will be unable to own one – and enjoy with his family the blessing of hours of pleasure in God's great open spaces.

– Henry Ford, 1913

#### Assessment

Have students complete the Student Activity Sheet 1B: Henry Ford and Innovation.



Name \_\_\_\_\_

# reading primary sources

## Letter, James H. Bear to Edsel Ford

The following questions will help you piece together what this document tells you about the people in the past. Use the digital image of the document and the document description to answer the questions.

### Reading for Main Ideas

What type of document is this?

\_\_\_\_\_

When was this document written?

\_\_\_\_\_

To whom was the document sent?

\_\_\_\_\_

\_\_\_\_\_

Who wrote this document?

\_\_\_\_\_

\_\_\_\_\_

What is the purpose of this document?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Reading for Details

What do you learn about the writer's personal background?

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What does the writer appreciate about Henry Ford's work?

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Whose lives did the Model T change, according to the writer?

Give an example of how life was different.

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## Reading Between the Lines

In the second-to-last paragraph, what president does the writer compare with Henry Ford?

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What do you think the writer liked about American society at this time?

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What do you think the writer disliked about American society at this time?

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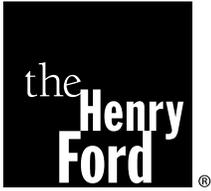
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Name \_\_\_\_\_

# reading primary sources

## Letter, James H. Bear to Edsel Ford

The following questions will help you piece together what this document tells you about the people in the past. Use the digital image of the document and the document description to answer the questions.

### Reading for Main Ideas

What type of document is this?

*Letter*

When was this document written?

*August 26, 1938*

To whom was the document sent?

*Edsel Ford  
(Son of Henry Ford)*

Who wrote this document?

*James H. Bear*

What is the purpose of this document?

*To congratulate Edsel on having Henry Ford as a father, to praise Henry Ford, give Henry Ford well wishes for his seventy-fifth birthday.*

## Reading for Details

What do you learn about the writer's personal background?

*He grew up on a farm and was a salesman in the rural Midwest.*

What does the writer appreciate about Henry Ford's work?

*Henry Ford's Model T made it possible for farm families to travel farther from home. Farmers were able to play more of a role in society because of this better transportation.*

Whose lives did the Model T change, according to the writer?

Give an example of how life was different.

*The Model T changed the lives of farmers and their wives and children. Prior to that car, many farm wives and children hadn't traveled much more than 5 miles from home.*

## Reading Between the Lines

In the second-to-last paragraph, what president does the writer compare with Henry Ford?

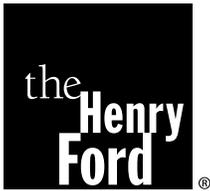
*Abraham Lincoln*

What do you think the writer liked about American society at this time?

*He liked the increased mobility the Model T and other cars had created. He feels people are equal in American society.*

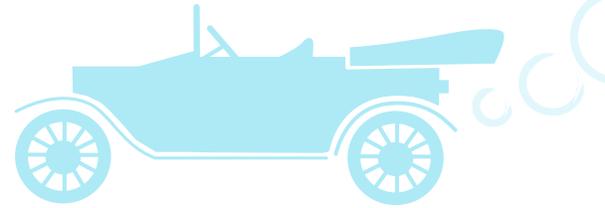
What do you think the writer disliked about American society at this time?

*The writer did not like the president and seems to feel Roosevelt did not have the character, integrity, foresight and unselfishness needed to lead the country. Perhaps he did not like Roosevelt's New Deal policies or how Roosevelt was dealing with the growing threat of war in Europe.*



Name \_\_\_\_\_

# Henry Ford and innovation



Define innovation.

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## Henry Ford’s Innovative Vision: “A Car for the Multitude”

I will build a motor car for the great multitude. It will be large enough for the family but small enough for the individual to run and care for. It will be constructed of the best material, by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be so low in price that no man making a good salary will be unable to own one – and enjoy with his family the blessing of hours of pleasure in God’s great open spaces.

**Henry Ford, 1913**

In your own words, what was Henry Ford’s vision?

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## Lesson 2 Case Study of an Innovator: Henry Ford

### Main Ideas

- A successful innovator has qualities that contribute to his/her success.
- Henry Ford used his love of tinkering, his persistence, his willingness to take risks, and his ability to build good teams to create the Model T.

### Key Concepts

- Curious
- Took advantage of opportunities to learn
- Mechanically inclined
- Perseverance after failure
- Willing to take risks
- Able to identify and attract outstanding people
- Visionary

### Digitized Artifacts from the Collections of The Henry Ford

#### Lesson 2 Case Study of an Innovator: Henry Ford

- [Westinghouse Portable Steam Engine No. 345, Made circa 1881 and Used by Henry Ford](#) ID# THF74884
- [Henry Ford with Other Employees at Edison Illuminating Company Plant, circa 1895](#) ID# THF22975
- [Ford Quadricycle, 1896, First Car Built by Henry Ford](#) ID# THF3854
- [Detroit Automobile Company Delivery Truck Outside the Factory, 1899-1900](#) ID# THF25005
- [Henry Ford and Ed \(Spider\) Huff Driving the Ford Sweepstakes Racer at Grosse Pointe, Michigan, October 10, 1901](#) ID# THF23800
- [Ford Race Car “Sweepstakes,” 1901](#) ID# THF70565
- [Henry Ford and Ford Motor Company Executives at Henry Ford Museum, 1933](#) ID# THF22279
- [Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford](#) ID# THF70573
- [Henry Ford with the First Ford V-8 Engine, March 26, 1932](#) ID# THF22218

### Materials

- Computers with access to the Internet (preferred) OR printed handouts of digitized artifacts’ images and descriptions
- Sign: “How do people create society-changing innovations?”
- Student Activity Sheet 2A: Analyzing Artifacts of Henry Ford
- Student Activity Sheet 2B: Henry Ford: Biography of an Innovator
- Answer Key 2B: Henry Ford: Biography of an Innovator

### Duration

One class period (45 minutes)

### Instructional Sequence

#### 1 Engagement

Remind students that the Model T was an innovation. Ask them to explain why.

Tell students that Henry Ford possessed personal qualities that contributed to his ability to be innovative, and that today they will learn more about his life story, his personal qualities and the artifacts associated with his life that reveal some of those qualities.

continued...

## Lesson 2 Case Study of an Innovator: Henry Ford Continued

### 2 Henry Ford's Qualities

Divide students into pairs or groups of three. Assign each group of students one digitized artifact. Students can view their artifacts through [Lesson 2: Case Study of an Innovator: Henry Ford](#). If you do not have Internet access, print the images and the accompanying descriptive information.

First, ask the students to complete the Quick Write on Student Activity Sheet 2A by only looking at the artifact – without reading its title, date or description. This will help them to observe and describe details about material culture. Then have students conduct a thorough analysis of the artifact using the Student Activity Sheet 2A: Analyzing Artifacts of Henry Ford. Ask them to prepare a brief presentation (about 1 minute) for the class about the artifact and its relation to Henry Ford's life.

### 3 Henry Ford: Biography of an Innovator

Read Student Activity Sheet 2B: Henry Ford: Biography of an Innovator as a class or independently. Check students' understanding of each other's presentations by having them identify and match how each digitized artifact tells a specific part of the story of Henry Ford's life.

#### Assessment

Assess students' understanding of how artifacts tell about a person, based on their presentations and Student Activity Sheet 2B. Henry Ford: Biography of an Innovator.





### Analysis

Now conduct a more thorough analysis of the artifact. Use your prior knowledge, observation skills and imagination to answer the following questions the best you can, with as much descriptive detail as possible:

What do you think this artifact is?

Why do you think it was made?

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When do you think it was made?

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What else do you notice about this artifact?

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What do you think it is made from?

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## Analysis Continued...

Now, read the descriptive information about the artifact.

Describe the artifact.

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What does this artifact tell us about Henry Ford's personality or qualities?

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What does this artifact tell us about Henry Ford's life?

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How do you think these particular qualities helped Henry Ford create a society-changing innovation like the Model T?

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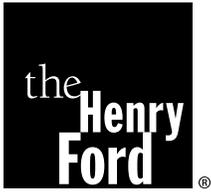
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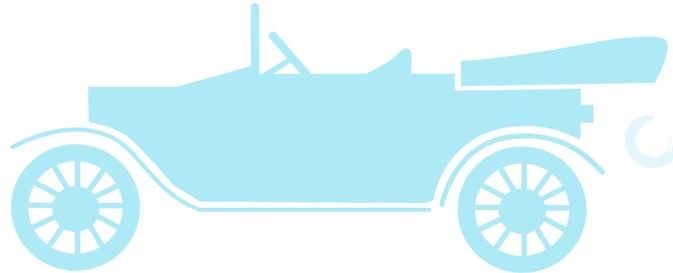
# Henry Ford Biography of an Innovator

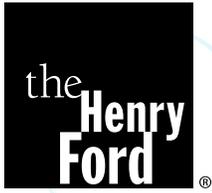
For each blank, choose the primary source from Henry Ford's life which best illustrates this part of his story.

## Digitized primary sources from Henry Ford's life:

- A. Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford ID# THF70573
- B. Ford Race Car "Sweepstakes," 1901 ID# THF70565
- C. Detroit Automobile Company Delivery Truck Outside the Factory, 1899-1900 ID# THF25005
- D. Ford Quadricycle, 1896, First Car Built by Henry Ford ID# THF3854
- E. Henry Ford with Other Employees at Edison Illuminating Company Plant, circa 1895 ID# THF22975
- F. Westinghouse Portable Steam Engine No. 345, Made circa 1881 and Used by Henry Ford ID# THF74884
- G. Henry Ford with the First Ford V-8 Engine, March 26, 1932 ID# THF22218
- H. Henry Ford and Ford Motor Company Executives at *Henry Ford Museum*, 1933 ID# THF22279
- I. Henry Ford and Ed (Spider) Huff Driving the Ford Sweepstakes Racer at Grosse Pointe, Michigan, October 10, 1901 ID# THF23800

Name \_\_\_\_\_





# Henry Ford

## Biography of an Innovator



Name \_\_\_\_\_

By Bob Casey, Catherine Tuczec, Donna Braden  
Curators, The Henry Ford

Henry Ford did not invent the automobile. He didn't even invent the assembly line. But his inexpensive Model T car and his improvements to production methods made him one of the major shapers of the 20th century. Why was he such an innovator?

Ford's beginnings were perfectly ordinary. He was born on his father's farm in what is now Dearborn, Michigan, on July 30, 1863. At a young age, Ford demonstrated some of the characteristics that would make him successful, powerful and famous. Using his mechanical ability, he organized other boys to build simple waterwheels and steam engines. His curiosity led him to learn about full-sized steam engines by becoming friends with the men who ran them.

**1.** \_\_\_\_\_ He taught himself to fix watches and, in doing so, learned about machine design and about learning by trial and error. These characteristics would become the foundation of his whole career.

Ford could have followed in his father's footsteps and become a farmer. But young Henry was fascinated by machines and was willing to take risks to pursue that fascination. In 1879, he left the farm to become an apprentice at the Michigan Car Company, a manufacturer of railroad cars in Detroit. Over the next two-and-one-half years, he held several similar jobs, sometimes moving when he thought he could learn more somewhere else. He returned home in

1882 but did little farming. Instead he operated and repaired portable steam engines used by farmers, occasionally worked in factories in Detroit, and cut and sold timber from 40 acres of his father's land. By now, Ford was demonstrating another characteristic – a preference for working on his own rather than for somebody else. In 1888, Ford married Clara Bryant, and in 1891, they moved to Detroit where Henry had taken a job as night engineer for the Edison Illuminating Company.

**2.** \_\_\_\_\_ Ford did not know a great deal about electricity. He saw the job in part as an opportunity to learn. Also, Henry admired Thomas Edison, the great inventor, and was able to meet his role model through this job.

Henry was a good pupil and by 1896 had risen to chief engineer of the Illuminating Company. But he had other interests. He became one of the many curious and mechanically inclined people working in barns and small shops across the country trying to build horseless carriages. Ford completed his first automobile in 1896, **3.** \_\_\_\_\_ aided by a team of friends. A second car followed in 1898. Ford now demonstrated one of the key qualities to his future success – the ability to dream big and convince other people to sign on and help him achieve that dream. He persuaded a group of businessmen to back him in the biggest risk of

Continued...

his life – a company to make and sell horseless carriages.

4. \_\_\_\_\_ But Ford knew nothing about running a business, and learning by trial and error always involves failure. The new company failed, as did a second. To revive his fortunes, Ford took bigger risks, building and even driving racing cars. 5. \_\_\_\_\_ The success of these cars attracted additional financial backers, and on June 16, 1903, Henry incorporated his third automotive venture, Ford Motor Company.

The early history of Ford Motor Company illustrates one of Henry Ford's most important talents – an ability to identify and attract outstanding people. He hired a core of young, able men who believed in his vision and would make Ford Motor Company into one of the world's great industrial enterprises.

6. \_\_\_\_\_ The new company's first car, called the Model A, was followed by a variety of improved models. In 1907, Ford's four-cylinder, \$600 Model N became the best-selling car in the country. But by this time, Ford had a bigger vision: a better, cheaper "motorcar for the great multitude." Working with a hand-picked group of employees, he came up with the Model T, introduced on October 1, 1908.

7. \_\_\_\_\_ Henry Ford was right; the Model T was truly a car for the multitude. Over 15 million were produced.

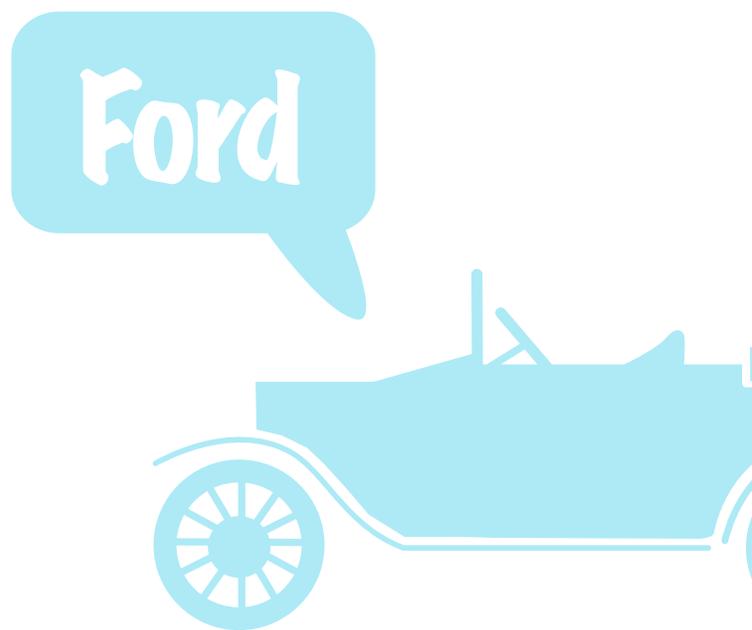
The Model T's success had convinced Henry that only he knew what car people wanted. He continued to believe that the Model T was that car. He ignored the growing popularity of more expensive but more stylish and comfortable cars like the Chevrolet and would not listen to his son Edsel and other Ford executives when they said it was time for a new model. Finally, the declining sales figures convinced Henry to design a new car, called the Model A. It was successful, but for only

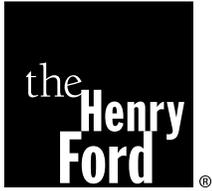
four years. In 1932, at age 69, Ford again showed his mechanical ability when he introduced his last great automotive innovation, the lightweight, inexpensive V-8 engine.

8. \_\_\_\_\_ Even this was not enough to halt his company's decline. By 1936, Ford Motor Company had fallen to third place in the U.S. market, behind both General Motors and Chrysler Corporation.

Henry continued to tinker, sometimes with his mentor and friend Thomas Edison. He also worked with George Washington Carver to try to find new uses for the soybean. Henry retired from Ford Motor Company in 1945 and died on April 7, 1947, at age 83.

**Note** The main sources for the above were *Ford: The Times, The Man, The Company*; *Ford: Expansion and Challenge 1915-1933*; and *Ford: Decline and Rebirth 1933-1962* by Allan Nevins and Frank Ernest Hill, and *From the American System to Mass Production* by David Hounshell.





# Henry Ford

## Biography of an Innovator

By Bob Casey, Catherine Tucek, Donna Braden  
Curators, The Henry Ford

1. **F.** Westinghouse Portable Steam Engine No. 345, Made circa 1881 and Used by Henry Ford ID# THF74884
  2. **E.** Henry Ford with Other Employees at Edison Illuminating Company Plant, circa 1895 ID# THF22975
  3. **D.** Ford Quadricycle, 1896, First Car Built by Henry Ford ID# THF3854
  4. **C.** Detroit Automobile Company Delivery Truck Outside the Factory, 1899-1900 ID# THF25005
  5. **I.** Henry Ford and Ed (Spider) Huff Driving the Ford Sweepstakes Racer at Grosse Pointe, Michigan, October 10, 1901 ID# THF23800
  6. **H.** Henry Ford and Ford Motor Company Executives at Henry Ford Museum, 1933 ID# THF22279
  7. **A.** Ford Model T Touring Car, 1914, Given to John Burroughs by Henry Ford ID# THF70573
  8. **G.** Henry Ford with the First Ford V-8 Engine, March 26, 1932 ID# THF22218
- B.** Ford Race Car "Sweepstakes," 1901 ID# THF70565

## Lesson 3 Case Study of an Innovation: Moving Assembly Line and the Industrial Workforce

### Main Ideas

- Henry Ford’s moving assembly line changed the nature of work for many Americans.

### Key Concepts

- Craft system
- Mass production
- Moving assembly line
- Interchangeable parts
- Division of labor
- Industrial workforce
- Unskilled workers
- Skilled workers
- Scientific management
- \$5 day

### Digitized Artifacts from the Collections of **The Henry Ford**

#### Lesson 3

#### Case Study of an Innovation:

#### The Moving Assembly Line and the Industrial Workforce

- [Swift & Company’s Meat Packing House, Chicago, Illinois, “Splitting Backbones and Final Inspection of Hogs,” 1910-1915 ID# THF32081](#)
- [1924 Ford Model T Cars on Assembly Line at Highland Park Plant, October 1923 ID# THF23577](#)
- [Women Workers Assembling Magnetos at Ford Highland Park Plant, circa 1913 ID# THF23810](#)

- [Letter to Henry Ford from the Wife of an Assembly Line Worker, 1914 ID# THF32100](#)
- [Ford Motor Company Clipping Book, Volume 2, January 6-10, 1914 \(page 10 ID# THF68272\) \(page 11 ID# THF68273\)](#)

### Materials

- Computers with access to the Internet, digital projector and screen (preferred) OR printed handouts of digitized artifacts’ images and descriptions
- Sign: “How do people create society-changing innovations?”
- Scrap paper – lots
- Full roll of wrapping paper
- Empty wrapping paper tube
- Tape
- 10 feet of continuous flat surface, like desks or tables pushed together

### Duration

2 class periods (45 minutes each)

### Instructional Sequence

#### 1. Engagement

Ask students what words or phrases come to mind when they think about factories and working in a factory. Write their suggestions on the board. Tell them they’ll learn more about how Henry Ford changed the way goods are produced.

continued...

## Lesson 3 Continued (page 2 of 4)

### 2. Lecture: Henry Ford Creates the Moving Assembly Line

Share information with students about Henry Ford's development of the moving assembly line. Review and if necessary refer to the Glossary in the Teacher Guide to define unfamiliar terms. You may wish to wait to fully discuss workers' feelings about working on the assembly line or about the \$5 day, as students will experience some of these emotions when they participate in the Build a Paper Airplane Activity.

After the lecture, ask your students to discuss the terms below as a class and come to a consensus on the definitions. They should refer to their notes to find context clues and should also use dictionaries. Use the accompanying digitized artifacts below to illustrate the meaning of some of these terms:

- Craft system
- Mass production
- “Disassembly” line (See image [Swift & Company's Meat Packing House, Chicago, Illinois, “Splitting Backbones and Final Inspection of Hogs,” 1910-1915](#) ID# THF32081)
- Moving assembly line (See image [1924 Ford Model T Cars on Assembly Line at Highland Park Plant, October 1923](#) ID# THF23577)
- Division of labor (See image [Women Workers Assembling Magnetos at Ford Highland Park Plant, circa 1913](#) ID# THF23810)
- Interchangeable parts
- Unskilled workers
- Skilled workers
- Scientific management

### 3. Paper Airplane Workshop\*

Students will produce paper airplanes as goods would have been produced before the innovation of the moving assembly line.

Have each one of your students seated at their desks. Give them each a few sheets of paper. They will do this part of the activity alone. Tell them they can create whatever kind of airplane they want to, making their own production decisions from start to finish. Don't tell them they have to produce a certain number or tell them how much time they have. Stop them after about five minutes. Ask them to count how many they have made. Ask a few to share their airplane designs with the class. Then allow them to test-fly their airplanes.

Clean up and put the tested airplanes in the recycling bin.

**Note** For additional information, see “Model T and the Assembly Line,” in [From the Curators – Henry Ford and Innovation](#).

continued...

## Lesson 3 Continued (page 3 of 4)

### 4. Paper Airplane Moving Assembly Line\*

Ask students to predict how working on the assembly line and assembly line products will be different. Tell them that they will now get a taste of working on a moving assembly line so they'll be better able to answer that question.

#### Paper Airplane Assembly Line Setup

##### Recommendation

Setup the physical assembly line before your students come to class.

##### Setup

- Tape the end of the roll of wrapping paper to an empty roll of wrapping paper in a few places along the end.
- You will need ten feet of continuous flat surface; you might line up desks or tables to achieve this.
- Place the wrapping paper at one end of the surface; unwind it enough so that the empty roll-end reaches the other end of the flat surface to form the conveyor belt.
- Place a stack of scrap paper at the end with the full roll. This will be Station One on the assembly line.

#### Assembly line stations

- Station One** Take one piece from the stack of paper and place it on the conveyor belt.
- Station Two** Make a center vertical fold in the piece of paper.
- Station Three** Open the folded paper.
- Station Four** Fold the top right corner of the unfolded paper in to the fold line.
- Station Five** Fold the top left corner of the paper in to the fold line.

**Station Six** Fold the center to create the nose.

**Station Seven** Fold one side down to create one wing.

**Station Eight** Fold the other side down to create the other wing.

**Station Nine** Adjust so wings are horizontal.

**Station Ten** Test-fly the airplane.

Each station is a job on the assembly line. The airplane should move on the conveyor belt (wrapping paper) between stations.

Choose ten students to fill these positions. You will also need two students to run the conveyor belt, with one holding the full tube and one winding paper around the empty tube. The second student will be the belt controller, controlling the speed of the assembly line.

Students not working on the assembly line should each be assigned to closely observe one of the workers. Let the observers know that they'll be asked to comment on what their worker seems to find easy and what their worker seems to find challenging.

Review each of the jobs with the students. Explain to students how the moving assembly line will work. Once you are sure everyone understands his or her jobs, try out the moving assembly line.

Introduce the scenario that the speed of production is controlled by the speed of the conveyor belt in the moving assembly line, so that workers only have a certain amount of time to complete their step of the process. Before you begin, ask students to explain why Henry Ford would feel this is a good idea. After they answer, ask the workers to be aware of their feelings while they are working on the moving assembly line.

continued...

## Lesson 3 Continued (page 4 of 4)

### 4. Paper Airplane Moving Assembly Line\* Continued

Explain to students how the moving assembly line will work:

The assembly line will move when the belt controller winds the paper up onto the tube. The belt controller will need to wind at a consistent speed.

After the first worker places the paper on the assembly line, his job is not done. He should continue placing papers on the assembly line so that the second station will have materials to complete the next task. Each station should continue to perform the task assigned to that station until the conveyor belt runs out.

Have a discussion about the following topics with students and write their responses on the board.

Ask the workers to share how they felt during this activity. Ask the observers what they noticed that went well or was challenging. Ask the workers to describe how they felt about doing one task on the moving assembly line versus making the airplanes themselves from start to finish.

Next, try speeding up the line. Switch the conveyor belt around by moving the filled-up roll back to the start of line. Have the belt controller wind faster this time. Ask the workers: How do your feelings change? Does the work become more challenging? If so, for whom, and how? How does the quality of the product change? Update your notes on the board with these additional comments.

Let students know that in a real factory, the belt would not run out but would be moving continuously. Breaks must be scheduled so that all positions are covered; the process breaks down if just one worker is missing from his or her job on the line.

### 5. Impact on Workers

Tell students that workers shared many of the frustrations they felt about work on the moving assembly line. Read the [Letter to Henry Ford from the Wife of an Assembly Line Worker, 1914](#) ID# THF32100 aloud to the students. Ask them what actions they might take in response to working on the moving assembly line.

### 5. The \$5 Day

Explain to students that Henry Ford had difficulty retaining workers on the assembly line and so he enacted the unheard-of wage of \$5 per day for unskilled or semiskilled work. Ask students to read these newspaper clippings, [Ford Motor Company Clipping Book, Volume 2, January 6-10, 1914](#) (page 10 ID# THF68272) (page 11 ID# THF68273), which show the national and global response to Ford Motor Company's announcement. What was the reaction to the announcement?

### Assessment

Have students write a piece of historical fiction that draws on their experiences today. For example, they might assume the role of a Ford Motor Company worker from 1914 and write a journal entry. Or they might draw a comic strip showing an episode from a Ford worker's day. Evaluate student work based on its ability to evoke the feelings engendered by working on a moving assembly line.

\* Adapted from *The Power in Our Hands: A Curriculum on the History of Work and Workers in the United States*, by William Bigelow and Norman Diamond. New York: Monthly Review Press, 1988.

## Lesson 4 Case Study of Social Change: Mass Advertising and Consumption in the 1920s

### Main Ideas

- Everyday people take part in the innovation process through their buying power.
- Henry Ford influenced mass consumption of the Model T with marketing techniques (some innovative, some not).

### Key Concepts

- Market
- Consumer
- Producer
- Marketing
- Mass consumption
- Mass advertising
- Consumer culture
- Niche market

### Digitized Artifacts from the Collections of **The Henry Ford**

#### Lesson 4

#### Case Study of Social Change:

#### Mass Advertising and Consumption in the 1920s

- Ford Motor Company Sales Leaflet, 1908, “Ford Motor Cars Model T Advance Catalog” ID# THF32124
- Advertisement for the 1924 Ford Model T, “Freedom for the Woman Who Owns a Ford” ID# THF60074
- Ford Motor Company Clipping Book, Volume 2, January 6-10, 1914 ID# THF80232

- Ford Motor Company Advertisement, 1924, “How Did He Ever Get the Money to Buy a Car?” ID# THF32136
- Sales Brochure Featuring the 1925 Ford Model T Sedan, “Her Personal Car” ID# THF32135
- Large Ford Sign at the Rouge Plant above the Train Entrance, circa 1964 ID# THF68322
- Advertisement for the 1925 Ford Model T, “Dependable as the Doctor Himself” ID# THF67880
- Advertisement for the 1904 Ford Line of Cars, “Boosted into Popular Favor by the Knocks of the Trust” ID# THF32117
- Advertisement for the 1924 Ford Model T, “Cancel Distance & Conquer Weather” ID# THF39661
- Advertisement for the 1904 Ford Model A, “One Mile in 39-2/5 Seconds, Ford World’s Record” ID# THF32119
- Advertisement for the 1925 Ford Model T, “Within the Means of Millions” ID# THF32137
- Ford Times Cover, March 1917 ID# THF35039
- Sales Brochure for the 1911 Ford Model T, “Ford Motor Cars: The Good Car for Bad Roads” ID# THF32128

continued...

## Lesson 4 Continued (page 2 of 4)

### Materials

- Computer with access to the Internet, digital projector and screen (if possible)
- Sign: “How do people create society-changing innovations?”
- Student Activity Sheets 4A: Marketing Strategies
- Answer Key 4A: Marketing Strategies
- Student Activity Sheet 4B: Marketing Strategies Essay

### Duration

2 class periods (45 minutes each)

### Instructional Sequence

#### 1. Engagement

Remind students that innovation involves both producers and consumers. If no one uses a new invention, it's not an innovation – it hasn't changed society. Average people are just as important in the innovation process as extraordinary people like Henry Ford and Thomas Edison. The public's buying power is its way to take part in the innovation process.

Ask students to recall Henry Ford's vision. Discuss how his focus on producing cars will shift to a focus on selling cars. Ask students to imagine why they think people bought Model Ts.

Tell them that today they'll examine how consumers came to own Model Ts, transforming this vehicle into a society-changing innovation.

#### 2. Vocabulary

With students, define the following key concepts:

- Market
- Consumer
- Producer
- Marketing
- Mass consumption
- Mass advertising
- Consumer culture
- Niche market

(See the Glossary in the Teacher Guide.)

You may want to write the terms on the board and have students take notes.

#### 3. Marketing Strategies

Get students thinking like consumers by asking what it would take to convince them to buy the latest invention. You may want to provide an example of a new technology that has not yet been widely adopted. Tell students that this is the way Henry Ford and his team at Ford Motor Company had to think. In 1908, only 0.4% of Americans owned automobiles. People had been using horses to get around for millennia, steamships for about a century and trains for about seventy years. They didn't necessarily think their transportation system needed improving. Henry Ford somehow had to convince these people that 1) they needed an automobile and 2) it needed to be a Ford Model T. He and his team devised many ways to convince consumers that they needed cars and that they needed Ford cars.

continued...

## Lesson 4 Continued (page 3 of 4)

Tell students that during this lesson, you are going to take on the role of a marketing strategist, and they are going to serve as Henry Ford and his team. You will present a number of possible marketing strategies to them, and they are going to decide which ones Ford should use. At the end, they'll find out which strategies Ford did actually choose.

Break the students into six groups and distribute one set of Student Activity Sheet 4A: Marketing Strategies to each group. As a group, they should read about the strategy ideas and decide whether or not Ford Motor Company should or should not adopt each strategy. Tell students that when they are done, you'll review and discuss their opinions and share what really happened.

### 4. Review of Actual Marketing Strategies

Review the marketing strategies by having each group read, discuss and then present their group's review of the strategy. Each group should indicate whether the group adopted or rejected its suggested strategy and its reasons for doing so. Use the digital projector to show the digitized images of the advertisements from the Student Activity Sheet 4A. Encourage students to take notes in order to prepare for and write their Marketing Strategies Essay.

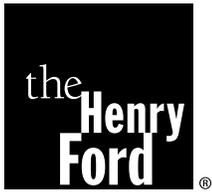
After the presentations are completed, use the Answer Key 4A to share additional information about marketing strategy decision-making. Collect the students' opinions about both the marketing strategies that were adopted and about those that were rejected.

### Assessment

Distribute Student Activity Sheet 4B: Marketing Strategies Essay, and have students write an essay reflecting on what they learned about Ford Motor Company's marketing strategies as well as their own opinions about what constitutes successful and unsuccessful product marketing.

When students return with their completed essays the next day, engage them in a brief discussion about why the marketing of the Model T succeeded. What marketing strategies contributed to its success? Which ones hindered it? You should reach the conclusion that Henry Ford's product was a good value and of high quality that met the people's needs, and so they bought it.

You may assess students' participation in the small-group activity as well as their homework essays for accuracy and thoughtfulness.



Group 1

Four horizontal lines for group work.



marketing strategies

### 1. Strategy

Change Only Details – No Fundamental Change to the Model Ts Great Design!

Henry, you've designed the perfect car – why mess with a good thing? Let's stick with it and only make changes to small details, like the styling and production of parts, and one day adding electric lights and an electric starter. But don't change your design – the suspension system, the transmission, the magneto, the torque tube drive, the 4-cylinder engine. The public will love the car so much that they won't want changes!

	should adopt		did adopt
	should not adopt		did not adopt

### 2. Strategy

The *Advance* Catalog

Henry, your Model T is a great idea. No car has ever before been designed to be affordable and practical for the masses. Even though no car has ever tapped this market before, you know and I know it's out there! Let's prepare our dealers by sending them our new *Advance* Catalog, which will explain to dealers everything about the Model T. They can then share this information with customers, and we'll have orders before the deliveries even begin!

	should adopt		did adopt
	should not adopt		did not adopt

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### 3. Strategy Appeal to Women

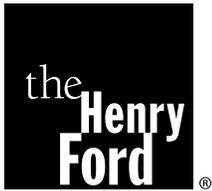
Women are getting more and more independent (they might even win the right to vote soon). They want their freedom – and the Model T can give it to them! I recommend we write some brochures specially aimed at women. What do you think of this: “The car is a real weapon in the changing order”?

	should adopt		did adopt
	should not adopt		did not adopt

### 4. Strategy \$5 Day

We’re all about the “little guy,” right? So let’s help out the little guys who work in our factories by paying them really well, maybe as much as \$5 a day. All the newspapers in the country will cover it, people will see Ford Motor Company as a hero AND our workers can afford to buy our cars! Free advertising and a larger market. Maybe we won’t even have to BUY ads anymore. Sales of the Model T will skyrocket, I’m telling you!

	should adopt		did adopt
	should not adopt		did not adopt



Group 2

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### 1. Strategy Dealer Network

You have been working on building a good network of dealers to sell Ford cars. “Branches” serve large cities while smaller cities and towns are served by “agencies.” We have been shipping our cars to branches, where both branch customers and agencies can pick them up. I suggest we continue this and expand. Let’s open new branches, especially at the last towns on the railroad line, before the price to ship increases at the next stop. I also want to have “road men” travel to branches and agencies to inspect their books and physical facilities – and give us the full report! Also, we should assign well-defined territories to each dealer to reduce competition between dealers. But, if a dealer is underperforming, we’ll narrow that dealer’s territory. These dealers should be very active sellers, always on the lookout for a sale, and should expect visits from me (the marketing expert) occasionally, during which I will demonstrate my excellent selling techniques. This strategy will sell millions of Ts!

	should adopt		did adopt
	should not adopt		did not adopt

### 2. Strategy

#### Appeal to People’s Desire to Be Modern

Automobiles are a brand new thing – and people would love to feel that they are ultramodern. Here’s some wording we can use in our brochures – “Today’s light, strong, Vanadium-built Ford is tomorrow’s car” and “Buy a Ford Car, because when you do, you are in the forefront of automobile advancement.” Maybe we can even get your friend, Thomas Edison – our era’s greatest symbol of technological progress and the inventor of recorded sound, moving pictures and electric lights – to star in an ad!

	should adopt
	should not adopt
	did adopt
	did not adopt

continued...

### 3. Strategy

#### Ford Weekly Purchase Plan

Not everyone has enough money right now to buy a new car, so let's help people save up. We'll have people pay \$5 a week until they have saved enough to buy a Model T. What do you think of this ad I've drawn up?

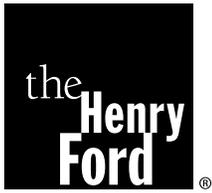
	should adopt		did adopt
	should not adopt		did not adopt

### 4. Strategy

#### Appeal to Upper-Class Women

Women love us – let's keep selling to them! Let's do a new ad campaign – a booklet – and we'll call it "Her Personal Car." We'll include some nice shots of stylishly dressed women playing cards, shopping at upscale stores and getting into Model Ts parked in front of columned mansions.

	should adopt		did adopt
	should not adopt		did not adopt



Group 3

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### 1. Strategy Logo

I love your logo of the Ford script. It's memorable, and it's the result of a great story. (Remember – your teammate Harold Willis used that old printing set he's had since childhood to set your company's name in typeface?) It's a perfect corporate symbol. Let's keep it.

	should adopt		did adopt
	should not adopt		did not adopt

### 2. Strategy Appeal to Doctors

If anyone needs to get somewhere in a hurry, it's doctors. They already make house calls with their horse-and-buggies. They need a personal mode of transportation – who heard of a doctor rushing to a dying patient's bedside on the streetcar? Here's a possible slogan – “When minutes mean life and death – as they do in almost every day's work for the doctor – the possession of a Ford car becomes to the physician an imperative demand for humanity's sake.”

	should adopt		did adopt
	should not adopt		did not adopt

continued...

### 3. Strategy

#### Convince People They Need a Car

Some people are STILL dragging their feet on buying a car – they don't think it's necessary! We have to convince them that the car isn't just a fad. We must persuade them that car ownership would give them something they need and don't already have. We have to appeal to their emotions! I've got an idea for an article in our magazine. We could title it "Why Doesn't More Auto Copy Talk My Language?" and it would read, "I am quite sure now I wish to have nothing to do with a car's mechanism – I am a joyrider pure and simple. The time is now come for automobiles to be advertised as a necessity to one's health and comfort, and the pleasure which they give. The automobile is a necessity – the world was ready for it and embraced it when it came or else it could never have made such wonderful headway." What do you think?

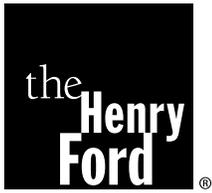
	should adopt		did adopt
	should not adopt		did not adopt

### 4. Strategy

#### Manufacturing Cars with Prestige and Style

People are going to keep wanting more and more. We can create a consumer culture, where your personal image and status are based on what you own and people want to buy, buy, buy! Let's make a car that will be special, unusual – in prestige, style and appearance, and in the old standbys of speed, comfort and style. We've got to keep people wanting more!

	should adopt
	should not adopt
	did adopt
	did not adopt



Group 4

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## marketing strategies

### 1. Strategy Underdog Image

It's really rough that your company was sued for patent violation. That other guy never really wanted to make a gasoline-burning internal combustion engine horseless carriage; he designed it but never built it! How can he possibly claim his design covered all gasoline-powered vehicles?!? I'm sure Ford will win the lawsuit. I love that you have made lemonade out of this lemon. Your ads portraying Ford as fighting "the man" really appeal to the public; they love an underdog. Let's keep it up for the Model T!

	should adopt		did adopt
	should not adopt		did not adopt

### 2. Strategy Appeal to People's Desire for Comfort and Pleasure

Who wants to get wet and cold waiting outside for a trolley car and then have to stand for twenty minutes, packed in like sardines with other folks of varying walks of life? People might be willing to deal with this now, but once they get a taste of riding to and from work in a warm, dry Ford coupe, they'll never go back to mass transit. Let's write some ads to help our potential customers realize this!

	should adopt		did adopt
	should not adopt		did not adopt

### 3. Strategy Transcontinental Auto Race

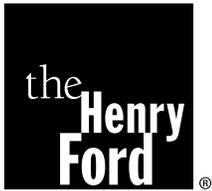
I've just heard about an opportunity that we just may be crazy enough to undertake. There is going to be an automobile race to cross the continent – New York to Seattle. Some other automakers are already talking about entering. If we win that race, against all the other automakers, can you imagine the publicity? And we WILL win, with our lightweight cars that were intentionally designed for our country's terrible roads. If we win, we can feature it in ads and booklets and even do a dealer tour! We've got to make sure we win, though...

	should adopt		did adopt
	should not adopt		did not adopt

### 4. Strategy Annual Model Changes

Style is important to today's consumers, especially women – and you know they really are the ones who make all the decisions in the family! Most people already own a car, and they run well for years — this doesn't help us sell cars! But I think style is the key. Let's change the look of the car every year, so that even if it's still running well, the car looks old – stylish women won't stand for having an old car when everyone else is driving a smart-looking new car.

	should adopt		did adopt
	should not adopt		did not adopt



Group 5



### 1. Strategy Sell the Idea of Henry Ford

Henry Ford – you’re a great man who makes great cars. People like knowing that your seal of approval – the Ford logo, which looks a lot like your own signature – is on every car. I love that you’re already selling your cars by selling yourself through ads like the one after you set a new automotive speed record – “It is not uninteresting that the builder and driver of this car is also the designer and builder of the regular Ford Runabout and Tonneau made by The Ford Motor Co., Detroit, Mich.” And those quotes that supposedly came straight from your lips – “They criticize – but they copy while they criticize” and “The man who has always been right in the past can safely be trusted for the future” – genius! You have made the marketing of the Model T easier with your personal image – let’s keep this good thing going!

	should adopt		did adopt
	should not adopt		did not adopt

### 2. Strategy

#### Appeal to Democratization of Pleasure

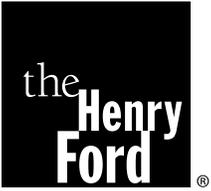
Everybody deserves to live an enjoyable life – not just the rich! Let’s create ads that show how the common man can also enjoy automobiling. Hmm, what do you think of this: “If there were no Fords, automobiling would be like yachting – the sport of rich men. But by centering his effort upon the production of one good car, Henry Ford has brought the price down within reason – and the easy reach of the many.”

	should adopt		did adopt
	should not adopt		did not adopt

### 3. Strategy Lower Prices

When it comes down to it, it’s all about the money. We’ve got to do whatever we can to continually bring the price of the Model T down, and if anyone can do that, it’s Henry Ford – king of the moving assembly line and vertical integration. Everyone should be able to afford a T. No one will be able to compete with Ford on price.

	should adopt		did adopt
	should not adopt		did not adopt



Group 6

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### 1. Strategy Company Magazine

Now here's a suggestion: Let's start a company magazine. It will give readers information on car design, production methods and testimonials from owners; stories of Ford victories in races and hill climbs; and advice and encouragement for dealers. It will be a fun and interesting read, with lots of pictures. I think it will boost the morale at Ford agencies and branches, motivating them to sell more; we can also send it to any existing or potential owner as advertising!

	should adopt		did adopt
	should not adopt		did not adopt

### 2. Strategy

#### Appeal to People's Desire for Romance

Hey, every man wants to win the heart of a special lady. If he believes having a Model T will help, he'll just have to get one! Taking a drive in a car, sitting close to each other – sounds like a romantic evening, eh? I'm sensing an ad campaign!

	should adopt		did adopt
	should not adopt		did not adopt

### 3. Strategy Sell Cars on Credit

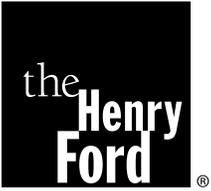
Not everyone has enough money right now to buy a new car, so let's help people get those funds! People already try to get loans through banks for cars, but those banks are awfully stingy with their loans. We'll create a financing arm of the company that will offer loans to potential buyers. Of course, they'll have to pay interest — we can both sell more cars AND make money off the interest!

	should adopt		did adopt
	should not adopt		did not adopt

### 4. Strategy Give Rebates

The Model T is made for the “little guy,” and what does he need more than cash? How about we offer rebates (let's say, \$40-\$60) to each Model T buyer if sales exceed a certain number in the next year? People will buy their own car and tell their friends do to the same so enough cars are bought for the rebate deal – the CONSUMER will advertise the PRODUCER!

	should adopt		did adopt
	should not adopt		did not adopt



# marketing strategies

## Group 1

### 1. Strategy: Change Only Details – No Fundamental Change to the Model Ts Great Design!

*Over its 19-year run, the Model T underwent thousands of detail changes but the fundamentals never changed. This was eventually its downfall, as the car ceased to embody the innovative ideals that once defined it, and it lost its appeal to the market.*

**Answer** did adopt

### 2. Strategy: The Advance Catalog

[Ford Motor Company Sales Leaflet, 1908, “Ford Motor Cars Model T Advance Catalog”](#) ID# THF32124

*The Advance Catalog was sent out on March 18, 1908. Dealers’ response to the catalog confirmed Henry Ford’s vision that a market for the T was out there. A dealer from New Castle, Pennsylvania, wrote, “It is without doubt the greatest creation in automobiles ever placed before a people, and it means that this circular alone will flood your factory with orders.” This dealer was right; orders poured in by telephone, telegraph and mail, even though deliveries would not be made until October 1.*

**Answer** did adopt

### 3. Strategy: Appeal to Women

[Advertisement for the 1924 Ford Model T, “Freedom for the Woman Who Owns a Ford”](#) ID# THF60074

*The turn of the century was a time when the image of women was beginning to change – from the strict 19th-century (and earlier) beliefs that a woman’s role was in the home, caring for her family and depending on her husband to provide and be the family’s public face, into that of the 20th-century independent woman. The car allowed women to go where they wanted.*

**Answer** did adopt

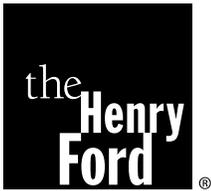
### 4. Strategy: \$5 Dollar Day

[Ford Motor Company Clipping Book, Volume 2, January 6-10, 1914](#) ID# THF80232

*Ford Motor Company did famously pay its workers the unheard-of sum of \$5 per day. Ford implemented the \$5 day to fight the high rate of turnover due to tedious work on the assembly line. The \$5 day was not designed as a marketing strategy, though it did attract significant attention. Ford invited only Detroit newspapers to his news conference announcing the wage, but soon the news was splashed across papers all over the country. The public hailed Henry Ford as a hero – and bought his cars. Henry Ford became the world’s best-known manufacturer and his company the best-known business enterprise in the world. In fact, the company was so successful it even halted its national advertising from 1917 through 1923.*

**Answer** did not adopt

continued...



## Group 2

### 1. Strategy: Dealer Network

*The dealer network was established years before the Model T. It became even stronger when a new sales manager, Norval Hawkins, was at Ford Motor Company from 1907 to 1919.*

**Answer** did adopt

### 2. Strategy: Appeal to People's Desire to Be Modern

*While Ford employed this advertising strategy, it could only be used effectively as long as the Model T continued to be modern. The car was quite old fashioned by the time its production ended in 1927.*

**Answer** did adopt

### 3. Strategy: Ford Weekly Purchase Plan

*Ford Motor Company Advertisement, 1924, "How Did He Ever Get the Money to Buy a Car?" ID# THF32136*  
*This plan was Ford's substitute for credit, which Henry Ford did not support. This savings plan (rather than a credit plan) was launched in 1923. In the first eighteen months, some 400,000 people signed up, but only 131,000 actually completed the program and bought cars. Enrollment fell thereafter.*

**Answer** did adopt

### 4. Strategy: Appeal to Upper-Class Women

*Sales Brochure Featuring the 1925 Ford Model T Sedan, "Her Personal Car" ID# THF32135*

*Ford published this booklet in 1925, trying to reach women, who had been a successful target in the past. However, by this time the Model T looked out of place in these luxurious settings, akin to what curator Bob Casey calls "jeans at the opera."*

**Answer** did adopt

## Group 3

### 1. Strategy: Logo

*Large Ford Sign at the Rouge Plant above the Train Entrance, circa 1964 ID# THF68322*

*The logo was established before the Model T, and it's the same corporate symbol Ford uses today. Harold Willis used his childhood print set to create it.*

**Answer** did adopt

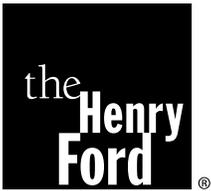
### 2. Strategy: Appeal to Doctors

*Advertisement for the 1925 Ford Model T, "Dependable as the Doctor Himself" ID# THF67880*

*Doctors were one of the first groups of people to embrace the automobile. The Model T's ability to handle rough roads and the ease of repairs made it perfect for someone who absolutely had to get somewhere. Farmers and women were also major adopters of the Model T.*

**Answer** did adopt

continued...



### Group 3 Continued

#### 3. Strategy: Convince People They Need a Car

*In 1908, many people didn't think they needed a car. They had to be persuaded that they needed something that could only be provided by car ownership. Hawkins knew how to reach these potential customers — not through reason but through emotions. The sales appeal, said Hawkins, "must be made primarily to the heart instead of the mind. A man's emotions, not his thoughts, control his desire." Ford ads targeted many different emotions, sometimes in the same ads, but certain ideas appeared repeatedly. Those ideas are exemplified in many ads you have seen in this activity.*

**Answer** did adopt

#### 4. Strategy: Manufacturing Cars with Prestige and Style

*An American consumer culture had blossomed by the 1920s, and people came to expect things they had once regarded as luxuries (running water, electricity, phonographs). Now, consumers wanted more than just the practical everyday goods like the Model T — they wanted prestige, style and appearance, which were not offered by the T, which debuted in 1908, twelve years before 1920.*

**Answer** did not adopt

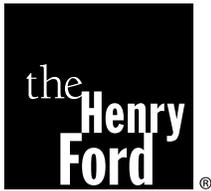
### Group 4

#### 1. Strategy: Underdog Image

[Advertisement for the 1904 Ford Line of Cars, "Boosted into Popular Favor by the Knocks of the Trust"](#) ID# THF32117

*Ford Motor Company was sued by George Selden, who designed (but did not actually build) a horseless carriage with a gasoline-burning internal combustion engine. He strategically patented the design in 1895, 16 years after his first designs, as he sensed that the automobile was about to be a huge success. He then claimed that his patent covered all gasoline-powered vehicles designed since his original 1879 application as well as all that would be designed, built and sold in the United States until the patent's expiration in 1912. He sold the patent to a group of companies, which collected royalties on each car sold. Companies had to either join the group or be run out of business. The group refused to let Ford Motor Company in, on the grounds that Ford was merely an assembler, not a manufacturer. Then the group took out an ad in *The Detroit News* warning that makers, sellers and buyers of unlicensed cars could be prosecuted by Selden's group. Ford published a counter-ad in the *Detroit Free Press* promising protection for its dealers and customers. Selden's group and Ford sued each other. The case lasted from 1903 to 1911, with Ford winning. According to expert Bob Casey, curator of transportation at **The Henry Ford**, "Ford's fight with the group*

continued...



## Group 4 Continued

*coincided with the rising tide of Progressivism and public concern with the growing power of big business. The Selden patent suit came to be seen by the public as a battle of the little guy against the big bully. It marked the first time that the national media and the public at large noticed the Ford Motor Company and its founder." Portraying Ford Motor Company as the "little guy" was the idea of Norval Hawkins, Ford's new sales manager.*

**Answer** did adopt

### 2. Strategy: Appeal to the People's Desire for Comfort and Pleasure

[Advertisement for the 1924 Ford Model T, "Cancel Distance & Conquer Weather" ID#39661](#)

*The affordability of the Model T made owning personal transportation rather than using mass transportation within the reach of millions. This philosophy continues today to control the transportation systems of most of the United States.*

**Answer** did adopt

### 3. Strategy: Transcontinental Auto Race

*Six cars participated in the Transcontinental Auto Race in 1909; two of them were Fords. They were much lighter than the competition – 1,300 pounds less than the next-lightest cars. The Ford was perfect for the rutted, muddy American roads. One of the Model Ts traveled the 4,100-mile route in 20 days and 52 minutes, finishing 17 hours ahead of the second-place car. Ford publicized the victory in national publications and published a booklet called "The Story of the Race." The winning car made a victory lap trip back to New York, stopping at dealerships along the way for promotional events. Five months later, it was discovered that Ford mechanics had illegally replaced this car's engine during the race, making another brand the winner. Henry Ford didn't care, as he'd already gotten the good publicity.*

**Answer** did adopt

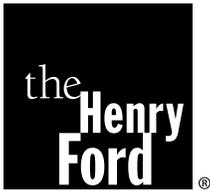
### 4. Strategy: Annual Model Changes

*Beginning in 1923, General Motors adopted this policy of annual model changes. The Chevrolet came to be the Model T's biggest competition; it looked much more stylish.*

**Answer** did not adopt

continued...

## Group 5



1. Strategy: Sell the Idea of Henry Ford

Advertisement for the 1904 Ford Model A, “One Mile in 39-2/5 Seconds, Ford World’s Record” ID# THF32119

*Selling the idea of Henry Ford was also Norval Hawkins’ idea. Henry Ford was one of the most well-known (and well-liked) captains of industry of his era (and even through the present).*

**Answer** did adopt

2. Strategy: Appeal to Democratization of Pleasure

*This strategy ties directly to both Ford’s vision of providing a car for the masses and the company’s image of being on the side of the “little guy.”*

**Answer** did adopt

3. Strategy: Lower Prices

Advertisement for the 1925 Ford Model T, “Within the Means of Millions” ID# THF32137

*By the end of 1920, a touring car cost only \$440, nearly half of what the same body style had cost in 1909. By December 1924, the last time the price of the Model T was cut, a touring car was only \$290. But at this point, profits on car sales were down to two dollars PER CAR and made up less than 5% of the Ford Motor Company’s total profit. The remaining 95% came from the sale of byproducts (mostly from the expanding Rouge Plant), interest on bank balances and securities, freight charges on shipments of cars and parts, and the sale of repair parts.*

**Answer** did adopt

1. Strategy: Company Magazine

Ford Times Cover, March 1917 ID# THF35039

*Ford Times was first issued on April 15, 1908 and was published through 1917.*

**Answer** did adopt

2. Strategy: Appeal to People’s Desire for Romance

Sales Brochure for the 1911 Ford Model T, “Ford Motor Cars: The Good Car for Bad Roads” ID# THF32128

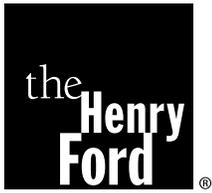
*While Ford Motor Company did use romance in its advertising, Henry Ford was concerned about romantic activities that might take place in a car, especially once closed cars were produced. Rumor has it that he limited the size of the backseat of the Model T specifically to discourage such activities.*

**Answer** did adopt

continued...

Group 6

Group 6 Continued



### 3. Strategy: Sell Cars on Credit

*For all its innovative sales techniques, the Ford Motor Company deliberately rejected the most important marketing development in the history of the auto industry – credit. In the early days of the auto industry, customers paid dealers in cash, and dealers paid manufacturers in cash. Dealers might be able to arrange a loan to purchase an inventory of vehicles from a manufacturer, but banks did not loan to individuals for a vehicle purchase. Private owners selling used cars were the first to sell cars on credit. The first sales finance companies began in 1913. These companies acted as middlemen: Banks supplied capital to the finance companies, finance companies supplied credit to dealers and dealers then offered credit to their customers. Similar arrangements were already used to finance expensive consumer goods like pianos. General Motors opened its own financing arm, General Motors Acceptance Corporation (GMAC), in 1919. By 1923, GMAC financed 46% of GM customers' new-car purchases. Henry Ford was opposed to consumer credit. He did not borrow money himself, and he did not want others to do so. While Ford customers could get financing through dealers, Ford Motor Company did not set up its own financing company until 1928, after the Model T was out of production.*

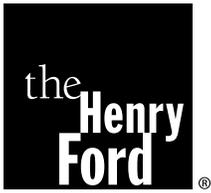
**Answer** did not adopt

*On July 31, 1914, Ford Motor Company announced that if sales exceeded 300,000 cars during the following year, each Model T buyer would receive a rebate of between \$40 and \$60. On August 1, 1915, it was announced that Ford sales had totaled \$308,213 during the previous year and that each buyer would get a check for \$50. This rebate promotion cost Ford \$15,410,650.*

**Answer** did adopt

\* Marketing strategies information adapted from *The Model T: A Centennial History*, by Robert Casey. Baltimore: Johns Hopkins Press, 2008.

### 4. Strategy: Give Rebates



Name \_\_\_\_\_

## marketing strategies essay

Write about the marketing strategies companies use to convince consumers to purchase their products. Address each of the following topics. Also, use at least 3 of the vocabulary words from Lesson 4 in your essay.

1. Choose at least one smart move the Ford Motor Company made in its marketing strategies and explain the marketing strategy, what you think of it and why you think it was successful.
2. Choose at least one not-so-smart move the Ford Motor Company made in its marketing strategies and explain the marketing strategy, what you think of it and why you think it was not successful.
3. Choose a print, television or online advertisement or other marketing strategy that you have seen recently and explain the marketing strategy, what you think of it and why you think it was successful or not successful.

Top: Newspaper Headline “Gold Rush Is Started by Ford’s \$5 Offer” January 7, 1914 ID# THF21999

Bottom: Advertisement for the 1924 Ford Model T, “Cancel Distance & Conquer Weather” ID# THF39661



This full-page advertisement appears in the February issue Ladies Home Journal.

**Cancel distance & conquer weather**

to out of town. Her time and energy are conserved, her health is protected, no matter how heavily cold the day, or how wet and slushy it is underneath. A Ford Model T is always comfortable—warm and snug in winter, and in summer with ventilator and windows open wide, as cool and airy as an open car.

This seasonal comfort is combined with fine looks and Ford dependability; no wonder there is for this car so wide and ever-growing a demand.

FORD MOTOR COMPANY, DETROIT, MICHIGAN  
 TUBOR, SEDAN, 500. — FORDOR, SEDAN, 400.  
 GAPEL, 300. — ALL PRICES F.O.B. DETROIT

The woman who drives her own Ford Closed Car is completely independent of road and weather conditions in any season. It enables her to carry on all those activities of the winter months that otherwise would be and for—

**Ford**  
CLOSED CARS

## Lesson 5 Society Changes, Both Intentionally and Unintentionally

### Main Ideas

- Innovations change society in many ways, sometimes unintentionally.
- We have the opportunity to create our own society-changing innovations.

### Key Concepts

- Mass consumption
- The development of an industrial workforce
- Mass production
- Land use
- Mass automobility
- Infrastructure
- Suburbanization
- Pollution
- Personal mobility/freedom

### Materials

- Computers with access to the Internet for student use (optional)
- Sign: “How do people create society-changing innovations?”
- Collection of magazines from last 1–2 years on a wide range of topics
- Posterboard
- Scissors
- Markers
- Glue
- Student Activity Sheet 5A: Legacies of an Innovation
- Student Activity Sheet 5B: Legacies of the Model T and the Assembly Line in Artifacts Today

### Duration

1 class period (45 minutes each)

### Instructional Sequence

#### 1. Engagement

Ask students to pair up and brainstorm a list of ideas on how the Model T and the assembly line continue to affect us today. Have students share their lists with the class verbally or by writing them on the board.

continued...

## Lesson 5 Continued (page 2 of 4)

### 2. Legacy of the Model T and the Assembly Line

Share additional information about the continuing legacy of the Model T and the assembly line in our society. As a group or individually, read Student Activity Sheet 5A: Legacies of an Innovation. Have students highlight key points about the legacies of the Model T.

#### Discuss with students:

- Which of these consequences do you think Henry Ford expected?
- Do you think any of these consequences were unintended? Which ones?

Summarize by telling students that innovations do not always change society in the way originally expected. Some of these outcomes could either be considered problems or be considered opportunities for more innovations.

### 3. Legacy Collage

To introduce this project, discuss with students:

- How would your lives be different if it weren't for the legacies of the Model T and the assembly line?
- Would you like to maintain or change any of these legacies?

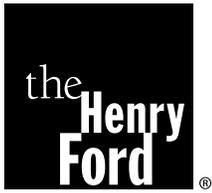
Activity Sheet 5B: Legacies of the Model T and Assembly Line in Artifacts Today instructs students on this activity. They will identify artifacts (images from modern magazines) to create a collage of images that exemplify some of the ways the Model T continues to affect society. How they feel about these legacies and what they will do to maintain or change the legacies will also be illustrated in their collages.

### 4. Legacy Collage Sharing

Have students display their collages on the wall, creating a museum walk. Give the students an ample amount of time to move around the room, looking at others' collages.

#### Assessment

Evaluate the thoughtfulness of the students' collages and whether they clearly represented a legacy, their feelings on it and actions they would take.



Name \_\_\_\_\_

## legacies of an innovation

### The Model T's legacy

The automobile filled deep, abiding desires that most people barely knew they had — desire for rapid, unfettered mobility; for control of something powerful; for ownership of something valuable, modern and complex. This is why people aspired to own automobiles before they could actually afford to buy automobiles or before automobiles were actually useful for daily transportation. The inexpensive, rugged, immensely capable Model T allowed people to fulfill their automotive aspirations. The consequences went far beyond anything Henry Ford ever imagined.

The auto industry became the driving force in the 20th-century American economy, and the steel, oil and rubber industries grew rich fulfilling its needs. Highway construction, virtually insignificant at the beginning of the century, grew steadily, fed by gasoline taxes willingly paid by drivers who wanted better roads. The culmination of this building boom was the Interstate Highway System, one of the great public works projects in human history, on the scale of China's Great Wall or Rome's aqueducts.

The American propensity for owning a house in the middle of a piece of land, no matter how small, created "streetcar suburbs" in the 19th century. But mass automobility facilitated the growth of vast new suburbs, with their attendant schools, retail stores and industries. The depopulation of older

By **Bob Casey**, Curator of Transportation,  
The Henry Ford

cities like Detroit and Buffalo and the expanding population of cities like Houston and Atlanta would have been impossible without ready access to automobiles.

Mass ownership of cars not only has allowed us to drastically alter our landscape, it also has drastically altered our atmosphere. Once viewed as preferable to the manure and urine deposited by horses, auto exhaust gradually came to be understood as a serious problem. Successful efforts to reduce emissions from individual cars are offset by increases in the sheer numbers of cars and in the miles people drive. The long-term atmospheric consequences of the 20th-century choice of mass automobility are hotly debated in the 21st century, as are the possible solutions.

Mass automobility is something to die for — literally. Since the late 1930s, traffic fatalities have averaged between forty and fifty thousand people per year. Great strides have been made in making both cars and roads safer, but as with air pollution, these efforts are offset by the increase in the number of miles driven. Deaths per mile have fallen steadily, but rising mileage keeps total annual deaths about the same.

continued...

Finally, in the early years of the twenty-first century it is difficult to think about automobiles without also thinking about oil, its price, its availability, its location. A huge oil strike at Spindletop near Beaumont, Texas, in 1901 meant that the automobile boom could be fueled by abundant and cheap domestic gasoline.

Americans came to view that condition as the natural order of things, even after domestic wells could no longer meet domestic demand. But it turns out that some of the world's most abundant oil fields are in some of the world's most politically volatile places – or perhaps those places are volatile because they contain abundant oil fields. Maintaining a high level of automobility meant becoming deeply involved with those places, for better or worse.

### The assembly line's legacy

The assembly line had its own powerful legacy. Without mass consumption of goods, mass production would not be economically viable. As Henry Ford himself said, “The two go together.” Both the methods of mass production and the sales methods necessary to promote mass consumption were spawned and perfected in the auto industry, with Ford leading the way. Producers of other consumer goods like refrigerators, washing machines, vacuum cleaners and radios quickly adopted both mass-production methods and mass-marketing methods. The “American Standard of Living” came to mean the purchase, discard, and repurchase of large quantities of machine-made goods.

When World War II broke out, American mass-production industries made a remarkably quick conversion to producing war material. None of the other belligerents could match the ability of the United States in turning out guns, helmets, tanks, ammunition and combat boots. Assembly line techniques were even adapted to aircraft and ships. American aircraft factories more than kept up with the appalling losses in Europe, while American shipyards built Liberty and Victory ships faster than two Axis navies could sink them.

Ford's five-dollar day is often cited as a key factor in expanding the middle class. But less often understood is just how that happened. The five-dollar day did more than simply increase wages. It reversed the historical relationship between wages and skill. Throughout history, the way for workers to increase the price they demanded for their services was to increase their skill level. The master craftsman always made more money than the journeyman. Conversely, the way for an employer to lower labor costs was to lower the skill required to do the work. For example, mechanization in the textile industry and the shoe industry lowered the skill level required to spin yarn and make shoes, and lowered the value of the labor of the workers in question. But the five-dollar day turned that relationship on its head by creating something the world had never seen before: the low-skill/high-wage job. Suddenly high-wage jobs were available to large numbers of people who could never have had them before, especially people from rural areas and from foreign countries. The Georgia sharecropper

continued...

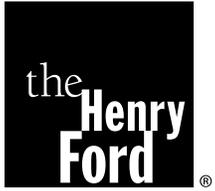
and the Polish peasant both found in Detroit or other industrial cities the opportunity to make a good living despite their lack of industrial skills. Unfortunately, this process led to a devaluing of education on the part of many workers and their children. Why do I need an education, they asked, to work on the line? A willingness to work, not a high school diploma, is all that is required.

But it turned out that the reversal of the wage/skill relationship was not permanent. As the automobile industry fought to meet competition from foreign cars in the 1980s, especially from Japan, it became clear that the Japanese had a different approach to assembly line work. Japanese automakers had discovered that they could increase quality and productivity by actually involving their workers in the improvement of the process. They did not want workers who turned their brains off when they punched the time clock and turned them on again at the end of the shift. They wanted workers who were educated, engaged, and who could do a variety of different jobs in the manufacturing process. They wanted their employees to have a high school education and even training beyond high school. To compete in quality and productivity, the U.S. industry gradually adopted the same approach. The consequences for anyone seeking an entry-level job at an auto plant were profound. No longer was the industry an “opportunity gate,” opening wide to anyone willing to work hard. It became instead an “opportunity turnstile,” open only to those with sufficient education and skill.

The five-dollar day had a major unintended consequence. Henry Ford’s new wage policy constituted an unwritten contract with his workers: They submitted to the discipline of the assembly line, and he paid unprecedented high wages. But when the Great Depression came along, Ford and other assembly line-based industries could no longer pay the high wages. Workers responded by joining industrial unions based not on craft skills but on common employment in an industry. When they withheld their labor through strikes, they forced employers to sign written contracts defining a new balance of power between worker and employer. Thus it was that Henry Ford, who hated labor unions, unwittingly created the conditions that gave rise to an organized labor movement that would remain a potent social and political force for the remainder of the century and beyond.

The long-term effects of both the Model T and the assembly line are so profound that one observer summed them up by saying that Ford’s Highland Park Plant, where the Model T was produced and the assembly line was developed, was the place where “the mainspring of the 20th century was wound.” Our own 21st century is still feeling the effects of that winding.

From the document – [From the Curators – Henry Ford and Innovation](#).



Name \_\_\_\_\_

# legacies of the Model T and the assembly line in artifacts today

How do the Model T and assembly line continue to affect society? How do you feel about those legacies? What will you do to maintain or change any of these legacies?

## Instructions

**1. Identify artifacts** that show how the Model T and the assembly line continue to affect society. Use recent magazines to find appropriate images; these images are your artifacts. Consider effects on your community, state, nation and world. Look for the following legacies, but focus on the effects that resonate most for you; you may represent concepts beyond this list.

- Mass consumption
- The development of an industrial workforce
- Mass production
- Land use
- Mass automobility
- Infrastructure
- Suburbanization
- Pollution
- Personal mobility/freedom

**2. Choose** a legacy represented by your artifacts, which you feel strongly about either maintaining or changing.

**3. Illustrate** through words, drawings or photographs how you feel about the legacy and what you will do to maintain or change it.

**4. Make a collage** of the artifact(s) and your illustrations. You may create a traditional cut-and-paste paper collage or you can scan images and make a digital collage (as a museum or archive might do).

## Lesson 6 Innovating: Past, Present and Future

### Main Ideas

- Innovators seem to share some key qualities and approaches to their work.
- We all have qualities that can help us be an innovator.

### Key Concepts

- Curiosity
- Breaking the rules
- Collaboration
- Recognizing and solving problems that address real needs
- Having fun
- Embracing risk and the lessons of failure

### Materials

- Computers with access to the Internet, for student use
- Sign: How do people solve problems?
- Student Activity Sheet 6A: Analyzing Our Artifacts
- Student Activity Sheet 6B: Innovating: Past, Present and Future – Essay

### Duration

1 class period (45 minutes each)

### Instructional Sequence

#### 1. Engagement

Revisit the pre-unit survey activity. Review the innovations people responded they could not live without. Briefly discuss with students:

- Do you know who created these innovations?
- Whether or not you know the innovator of the innovations, what qualities would an individual or group creating these innovations need to possess?

#### 2. Today's Innovators

To learn more about the innovators of today, explore [OnInnovation.com](http://OnInnovation.com) and watch some of the videos together as a class or allow students to do so individually or with partners.

Discuss with students some of the qualities that have made these innovators successful. Write these ideas on the board. Try to guide students toward the lesson's key concepts: curiosity, breaking the rules, collaboration, recognizing and solving problems that address real needs, having fun, and embracing the risk and the lessons of failure.

continued...

## Lesson 6 Continued

### 2. Analyzing Ourselves with Artifacts

Connect this lesson back to the unit’s overarching question of “How do people create society-changing innovations?” Make it relevant to the students’ own lives by inviting students to analyze their own artifacts and reflect on their own qualities.

Tell them that just as artifacts associated with Henry Ford reveal something about his personality, we too carry things that may say something about us. Ask students to choose a physical object they currently have with them such as something they’re wearing or something in their desk or backpack, etc. Ask students to do a think, pair, share about this “artifact.” They should think about why they have this object with them. What purpose does it serve? Why is it important to them to have it around?

Have students dig a little deeper and with a partner use Student Activity Sheet 6A: Analyzing Our Artifacts. Ask students to think about their own positive qualities and approaches to school, work or life that are exemplified by the artifact.

#### Example

Artifact eraser

Use to fix mistakes on my assignments  
What this says about me: I am willing  
to admit and fix my mistakes.  
(Not “I make a lot of mistakes.”)

### Assessment

Assign Student Activity Sheet 6B: Innovating: Past, Present and Future – Essay.

Help students access the recommended websites for research. Students can use the graphic organizer to keep track of their research.



Name \_\_\_\_\_

# analyzing our artifacts

These are the types of questions historians ask when studying an artifact.

They will also help you piece together what this artifact tells about you.

Think and write notes about the answers to these questions

1. What is the object called?

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2. What is the object made of?

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3. What is it used for?

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4. Which people use it?

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5. Is this object part of family life, education, work, play, home, religion, etc.?

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6. How did you obtain it?

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7. What is it like to use this object?

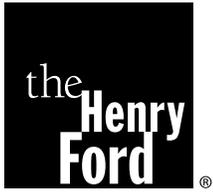
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# innovating past, present and future

## Think and write about innovating.

Who has helped make our society what it is today? What were their society-changing innovations? And what are some of their qualities and approaches to work that have made these innovators successful? How are you like or different from these innovators?

The activity Analyzing Our Artifacts has already helped you think about your own qualities and approaches to work. Access information from <http://oninnovation.com>, <http://www.ted.com>, and <http://invention.smithsonian.org>. Use this graphic organizer to start collecting more information for your essay. Start with innovators Henry Ford and Steve Wozniak, then choose two more that interest you most.

In your essay, discuss the four innovators, their innovations (including why you think their work was an innovation), their qualities and approaches to work, and how those qualities and approaches were similar or different. Finally, explain some of the ways your qualities and approaches are like or different from theirs.

### From the Curators:

“Even though we are able to identify common traits and find congruent behaviors among these innovators, we also can see the range of approaches and processes used by them. But one trait that is common to all these innovators is that being ‘interdisciplinary’ was second nature to them.”

– Marc Greuther,  
Chief curator and curator of industry and design,  
**The Henry Ford**

innovator	innovation & why innovative	innovator's qualities/approaches
Henry Ford		
Steve Wozniak		

**supplemental** resources | grades 9-12

## Impact of the Model T – Then and Now **Culminating Projects**

Consider introducing these projects at the outset of the unit *Impact of the Model T – Then and Now* so students can gather information along the way. These projects are designed as opportunities for students to demonstrate their learning and their response to the question, “How do people create society-changing innovations?” Be sure that students answer this question from the perspective of both the producer and the consumer. Choose the project option or options that best fit your class’s needs:

### Individual Off-line Project

#### Letter from Henry

Write a letter as if you were Henry Ford giving advice to an innovator-entrepreneur today. Your letter should incorporate some of ideas raised by the question – “How do people create society-changing innovations?” – discussed in this unit. There are a number of angles to take with this, so focus on what aspect of the topic matters most for you and be creative!

### Individual Online Project

#### ExhibitBuilder: Curate Your Own Exhibition

Create your own exhibition through **The Henry Ford’s** website, using digitized artifacts and the ideas and information you learned through this unit. Your exhibition should be on the topic “How do people create society-changing exhibitions?” Incorporate ideas discussed in this unit. There are a number of angles to take with this, so focus on an aspect of the topic that matters most for you and be creative! Use **The Henry Ford’s** Transportation in America website to access ExhibitBuilder – or [click here](#).

### Team Online Project

#### Innovation Plan

Develop an innovation plan. Choose an existing good or service you’d like to improve, or come up with an entirely new good or service. Your innovation plan should contain the following information: description of the innovation, description of the qualities/knowledge each team member brings to the project, why you are passionate about it and think it is important, the market for the innovation, and the process (including capital, human and natural resources) you will need to develop and sell the product or service. Use Henry Ford and Ford Motor Company’s work as an example of what you might consider for your innovation plan.

## Impact of the Model T – Then and Now Extension Activities

These extension activities provide opportunities for the eager learner curious about topics related to the impact of the Model T.

### Take Action

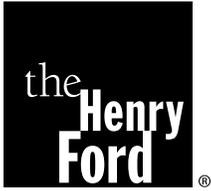
Have students choose a legacy of the Model T or assembly line that they feel strongly about maintaining or changing (for example, personal automobility, fuel issues, etc.). They should research the issue's origins, its impact on society today and its potential future impacts. Next, they should determine what they would like to see done about the issue. Finally, they should develop and carry out a plan to get the school or community involved in this issue.

### Innovative Uses

Access [OnInnovation.com](https://www.oninnovation.com). Watch or read the portion of Steve Wozniak's interview in which he says he often finds surprising uses for things that had seemed useless. Encourage students to come up with a use for something that seems useless (for example, something that's broken or left over from a project). Bring "useless" items in or have students find them themselves. Allow them to combine their item with whatever other materials they'd like.

### Creativity Within a Budget

Access [OnInnovation.com](https://www.oninnovation.com). Watch or read the portion of Steve Wozniak's interview in which he says he did his best work when he didn't have a lot of money to fund it; this forced him to be more creative. Allocate students a small amount of money, let them choose what they would want to do with it and then have them design a budget to achieve this goal.



Name \_\_\_\_\_

## review/assessment questions

1. What were some of the causes of the development of an industrial workforce? Use the automobile industry as an example.

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2. What have been some of the consequences of the development of an industrial workforce? Use the automobile industry as an example.

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3. What did Henry Ford do to successfully sell so many automobiles?

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4. What impact has the automobile had on American society?

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5. What were some of the causes of the automobile's impact on American society?

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6. How and why did consumption change during the 1920s? How does this impact society today?

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7. What is occurring in the American automobile industry today?

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8. What are the characteristics of innovators and entrepreneurs?

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9. What impact has industrialization had on the economy? Use the automobile industry as an example.

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10. What impact has industrialization had on the environment? Use automobiles as an example.

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11. What were some of the differences between industrial processes in the United States and other countries, like Japan?

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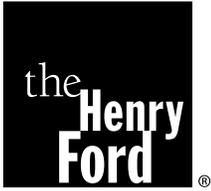
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## review/assessment questions

1. What were some of the causes of the development of an industrial workforce? Use the automobile industry as an example.

*The \$5 day allowed workers to make good money and so workers stayed in industrial jobs.*

*(USHG 6.1.5)*

2. What have been some of the consequences of the development of an industrial workforce? Use the automobile industry as an example.

*The \$5 day created a middle-class industrial workforce that received high wages for low-skill jobs.*

*Workers responded to attempts to decrease wages by forming unions, which remain strong socially and politically. (USHG 6.1.5)*

3. What did Henry Ford do to successfully sell so many automobiles?

*Henry Ford was able to make automobiles affordable due to his innovation of the assembly line. He and other automobile manufacturers also used marketing strategies to promote the mass consumption of cars. (USHG 6.1.5)*

4. What impact has the automobile had on American society?

*In so many ways, our daily lives are based around automobiles: the way we travel, the things we buy, the things we build — even the songs we sing and movies we watch often involve cars. (USHG 6.1.5)*

5. What were some of the causes of the automobile's impact on American society?

*The affordability of the automobile and marketing strategies are two reasons for the widespread adoption of the automobile. (USHG 6.1.5)*

6. How and why did consumption change during the 1920s? How does this impact society today?

*Mass production and mass advertising created mass consumption by the 1920s. American society today is a consumer culture in which buying and using goods is a valued cultural activity. (USHG 7.1.1)*

7. What is occurring in the American automobile industry today?

*Unions remain a force in the automobile industry. Opportunities for auto plant jobs now require a certain level of education and skill. (USHG 9.1.1, E 3.2.5)*

8. What are the characteristics of innovators and entrepreneurs?

*Characteristics include vision, taking advantage of opportunities to learn, talent, perseverance after failure, a willingness to take risks, an ability to identify and attract outstanding people, curiosity, breaking the rules, collaboration, recognizing and solving problems that address real needs, and embracing risk and the lessons of failure, among others. (E 1.1.2)*

9. What impact has industrialization had on the economy? Use the automobile industry as an example.

*Industrialization has created an industrial workforce, mass production and mass consumption. (WHG 6.2.3)*

10. What impact has industrialization had on the environment? Use automobiles as an example.

*The extraction of materials and manufacturing of automobiles pollutes the environment. The use of automobiles requires extraction and conversion of resources into fuel and causes emissions pollution. When automobiles are no longer usable, they must be discarded. Then the process continues. (WHG 6.2.3)*

11. What were some of the differences between industrial processes in the United States and other countries, like Japan?

*In the United States, the assembly line was managed and improved by engineers and management through scientific management. In Japan, assembly line workers were involved in the improvement of quality and productivity. The United States eventually adopted the same approach and now workers need some education and skill to get an entry-level job at an auto plant. (WHG 6.2.3)*

# Credits

The Henry Ford sincerely thanks the following individuals who guided the development of the Transportation in America online Educator DigiKits.

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