Quick Study Guide

Life Expectancy in the Industrial Age

- Average Life Expectancy in Selected Industrial Areas, 1850–1910

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>52.7 years</td>
<td>56.0 years</td>
</tr>
<tr>
<td>1880</td>
<td>45.7 years</td>
<td>48.6 years</td>
</tr>
<tr>
<td>1910</td>
<td>42.3 years</td>
<td>44.7 years</td>
</tr>
<tr>
<td>1920</td>
<td>40.3 years</td>
<td>42.8 years</td>
</tr>
<tr>
<td>1930</td>
<td>38.6 years</td>
<td>40.7 years</td>
</tr>
<tr>
<td>1940</td>
<td>36.0 years</td>
<td>38.0 years</td>
</tr>
</tbody>
</table>

Key Events of the Industrial Revolution

- Early 1800s: Romanticism begins to shape Western art and literature.
- 1807: First factories open in Belgium, setting off the Industrial Revolution on the European continent.
- 1819: French inventor Louis Daguerre perfects an effective method of photography.
- 1819: Simon Bolívar establishes Gran Colombia.

**Key People**

- **Inventors/Developers**
  - Alexander Graham Bell—telephone
  - Gottlieb Daimler—automobile
  - Thomas Edison—electric light bulb
  - Henry Bessemer—steel production
  - Louis Pasteur—pasteurization

- **Scientists**
  - Charles Darwin—theory of natural selection

- **Artists, Writers, and Composers**
  - Claude Monet—impressionist painter
  - Émile Zola—realist writer
  - Gustave Courbet—realist painter
  - Gustl a van Gogh—postimpressionist painter

- **Reformers**
  - William Wordsworth—romantic poet
  - Lord Byron—romantic poet
  - Johann Wolfgang von Goethe—poet

- **Composers**
  - Ludwig van Beethoven—romantic composer

**Impact of the Industrial Revolution**

- Industrialization
  - Growth of factories
  - Rise of big business
  - Advancements in transportation and communication
  - Rise of urbanization
  - Rise of labor unions

- Urbanization
  - Advances in medicine and science
  - Population growth due to falling death rates
  - Higher standard of living

- Social Structure
  - Three social classes emerge
  - Middle class expands
  - Rise of urban working class
  - Women's movements for rights in Europe and the United States

- Life Expectancy in the Industrial Age

- Progress Monitoring Online
  - For students acquiring basic skills: Adapted Reading and Note Taking Study Guide
  - Spanish Section Summaries, pp. 105, 107, 109, 111

- For less proficient readers: Adapted Reading and Note Taking Study Guide
  - Spanish Section Summaries, pp. 105, 107, 109, 111

- For special needs: Adapted Reading and Note Taking Study Guide
  - Spanish Note Taking, pp. 104, 106, 108, 110

For Progress Monitoring Online, refer students to the Self-test with vocabulary practice at Web Code nba-2151.
Cumulative Review

Record the answers to the questions below on your Concept Connector worksheets.

1. **Science**
   - Compare the changes that took place during the Scientific Revolution of the 1500s and 1600s to the scientific ideas of the late 1800s. Think about the following:
     - how new discoveries changed the way that people viewed the world during each period
     - how religious leaders responded during each period

2. **Technology**
   - During the High Middle Ages, an agricultural revolution brought about great change. Create a chart comparing the technological changes that took place from about 1000 to 1300 to the changes that took place during the Industrial Revolution. Think about the following:
     - how new technology sparked economic growth
     - how new technology changed people's lives

3. **Technology**
   - How did the second phase of the Industrial Revolution during the late 1800s differ from the first phase during the early 1800s? Create a chart comparing the two phases in terms of these factors:
     - countries involved
     - changes in transportation
     - changes in communication
     - sources of energy/power
     - major inventions

4. **Economic Systems**
   - The revival of trade during the High Middle Ages resulted in a commercial revolution. Hundreds of years later, the Industrial Revolution brought about changes in business. In what ways were the changes during the two periods similar? Think about the following:
     - new business practices
     - role of guilds and labor unions

Connections to Today

1. **Technology: Power Outage**
   - In August 2003, people in Canada and the northeastern part of the United States found out just how much their lives depend on electricity. When an energy plant unexpectedly shut down, it led to the largest power outage in North America's history—more than 50 million people were left in the dark.
   - Lights and elevators stopped working in skyscrapers, and Vermonters had to carefully make their way down dimly lit staircases. Others were trapped on trains or stuck in traffic jams caused by inoperable traffic lights. Airports experienced extended delays. Business slowed because Internet servers were not functioning properly, phone systems crashed, computerized cash registers could not ring up sales, and ATMs went down. With today’s linked power grids, the possibility of more massive blackouts that disrupt the lives of millions of people across country, state, and international lines is very real. What economic effects might a power outage have?

2. **Belief Systems: Social Darwinism**
   - British philosopher and Social Darwinist Herbert Spencer coined the phrase “survival of the fittest,” meaning that the strong grow in power and influence over the weaker members of society. Social Darwinists promoted the belief that the group was more important than the individual, and that privileged, powerful people had the right to make decisions about those whom they believed were inferior.
   - These ideas had horrific consequences for people of color throughout the world. For example, they led to unethical medical experimentation, abuse of the mentally ill, and countless acts of violence toward people of “different” religions, races, and ethnicities. To what degree do you think Social Darwinism is still a part of our culture today?

Connections to Today

1. **Student responses might mention such things as a decrease in production or sales in industries that rely heavily on electricity.**
2. **Responses should show direct comparisons between the two time periods including new business practices such as wage protection and the similarities between guilds and labor unions under government regulation.**

Connections to Today

1. **Student responses might mention such things as a decrease in production or sales in industries that rely heavily on electricity.**
2. **Responses should provide evidence and indicate to what degree students think that Social Darwinism affects social attitudes today.**

Cumulative Review

1. **Responses should show direct comparisons between the two time periods including new business practices such as wage protection and the similarities between guilds and labor unions under government regulation.**
2. **Charts should compare the technological changes of the High Middle Ages with those of the Industrial Revolution. They should include inventions as well as ways new technology led to increased production and economic growth. They should also mention technological breakthroughs, such as electricity, that changed peoples’ lives.**
3. **Charts should list countries involved, new modes of transportation and communications, and changes in communication; the shift from coal-driven power to electric, and major inventions.**
4. **Responses should highlight similarities between the two periods including new business practices such as wage protection and the similarities between guilds and labor unions under government regulation.**

Connections to Today

1. **Student responses might mention such things as a decrease in production or sales in industries that rely heavily on electricity.**
2. **Responses should provide evidence and indicate to what degree students think that Social Darwinism affects social attitudes today.**

For additional review of this chapter’s core concepts, remind students to refer to the Reading and Note Taking Study Guide.
Chapter Assessment

Terms, People, and Places

1. dynamo 5. mutual-aid society
2. stock 6. Realism
3. Racism
4. standard of living

Main Ideas

7. Sample: New technology, such as electricity, sparked industrial growth and made production faster and less expensive. New forms of transportation moved people and goods further and faster. The telegraph and tele- phone connected people quickly over great distances.

8. New technologies required the investment of more money; big, powerful corporations allowed more people to invest in business.

9. Improved: safety increased, police and fire departments were better orga- nized, disease declined, standard of living rose. Worsened: neighborhoods were overcrowded, the number of slums increased.

10. Before the Industrial Revolution, nobles and peasants made up the two main social classes, and their roles were defined by their relationship to the land. By the late 1800s, a large middle class had emerged.

11. that all atoms were alike, the age of Earth, and biblical accounts of creation

12. Romanticism emphasized freedom, imagin- ation, and emotion. Realists focused on ordinary subjects, the harsh side of city life, and the ills of the time.

Chapter Focus Question

13. New technology caused massive industrial growth and brought about the rise of the cities. Three distinct social classes emerged. As big busi- ness boomed, it employed thousands of workers, controlled the markets of entire industries, and enabled more people to invest in business.

Critical Thinking

14. Sample: New developments made it possible for people to move from one country to another and from rural to urban areas more easily.

Chapter Assessment

Terms, People, and Places

Choose the italicized term in parentheses that best completes each sentence.

1. A (dynamo/cartel) is a machine that generates electricity.

2. Business owners sell (corporations/stock), or shares in their companies, to investors.

3. (Realism/Impressionism) is an attempt to represent the world as it is seen.

Main Ideas

Section 1 (pp. 298–304)

7. Describe the impact of new technology on industry, transporta- tion, and communication.

8. Why did big businesses emerge during the Industrial Revolution?

Section 2 (pp. 305–309)

9. How did the Industrial Revolution improve city life? How did it make city life worse?

Section 3 (pp. 312–314)

10. How did the Industrial Revolution influence the class struc- ture of Western Europe?

11. What scientific beliefs did new scientific theories challenge?

Section 4 (pp. 319–322)

12. How did artists, composers, writers, and others respond to industrialization?

Chapter Focus Question

13. What were the technological, social, and economic effects of the Industrial Revolution?

Critical Thinking

14. Geography and History: How did technology affect the movement of people and goods in the 1800s and in the early 1900s?

15. Identify Point of View: How might each of the following have viewed the Industrial Revolution? (a) an inventor, (b) an entrepreneur, (c) a worker?

16. Draw Conclusions: Do you think women’s lives improved as a result of the Industrial Revolution? Why or why not?

17. Draw Inferences: Referring to Oliver Twist, Dickens wrote that “to show (criminals) as they really are, for ever dwelling unaffect- edly through the distant paths of life ... would be a serious to society.” How does his claim reflect the goals of realism?

18. Summarize: How would you describe Victorian middle-class values?

19. Demonstrate Reasoned Judgment: Some historians have suggested that we are now in a third phase of the Industrial Revolution, characterized by information technol- ogy and computers. Do you agree or disagree? Explain the reasons for your answer.

20. Analyzing Visuals

Which artistic move- ment of the 1800s do (a) the Monet reflect? (b) the Baudelaire? (c) the Whistler?

Writing About History

Writing a Problem-Solution Essay

The second Industrial Revolution ushered in a period of great change to the modern world. But it brought with it problems that people had not experienced before, such as hardships in cities and powerful monopolies control- ling big business. Write a problem-solution essay about one of these topics or choose your own topic relating to the content in this chapter.

Proving

• Choose the topic that interests you most. If you have a personal interest in a problem and its solution, your essay will be easier to develop.

• Narrow your topic.

• Make a list of facts, details, and examples that prove there is a problem. Then, identify the specific parts of your solution.

Drafting

• Develop a working thesis and choose information to support it.

• Organize the paragraphs in a logical order so that readers can understand the solution you propose.

Revising

• Use the guidelines for revising your essay on page 512 of the Writing Handbook.

15. Sample: (a) as an opportunity to use cre- ativity (b) as an opportunity for invest- ment and profit (c) as an opportunity for an improved standard of living

16. Sample: Yes. Women in some countries won the right to vote and the right to get an education.

17. By portraying the criminal world, he may inspire society to solve the problem.

18. Values included a strict code of etiquette and respectability.

19. Students should support their opinion with relevant evidence.

20. Impressionism, answers include the use of individual brush strokes and natural light.
Birth of the Modern City

The birth of the modern city helped to define the Industrial Age. The documents below show that the modern city represented progress, but not without costs.

Document A

“The first shock of a great earthquake had, just at that period, rent the whole neighborhood to its center. Traces of its course were visible on every side. Houses were knocked down; streets broken through and stopped; deep pits and trenches dug in the ground; numerous heaps of earth and clay thrown up; buildings that were undermined and shaling, propped by great beams of wood. . . . In short, the yet unfinished and unopened Railroad was in progress, and, from the very core of all this dire disorder, trailed smoothly away, upon its mighty course of civilization and improvement.”

—from Dombey and Son by Charles Dickens

Document B

Population of Major Cities

<table>
<thead>
<tr>
<th>City</th>
<th>1850</th>
<th>1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin, Germany</td>
<td>419,000</td>
<td>1,888,900</td>
</tr>
<tr>
<td>London, England</td>
<td>2,658,500</td>
<td>3,952,000</td>
</tr>
<tr>
<td>Moscow, Russia</td>
<td>5,000</td>
<td>6,586,000</td>
</tr>
<tr>
<td>New York, United States</td>
<td>365,000</td>
<td>1,053,000</td>
</tr>
<tr>
<td>Paris, France</td>
<td>2,580,000</td>
<td>2,714,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Selected Inventions, 1824–1911</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
</tr>
<tr>
<td>Locomotive</td>
</tr>
<tr>
<td>Dynamo</td>
</tr>
<tr>
<td>Telephone</td>
</tr>
<tr>
<td>Cash register</td>
</tr>
<tr>
<td>Elevator</td>
</tr>
<tr>
<td>Trolley car</td>
</tr>
<tr>
<td>Self-starting car</td>
</tr>
</tbody>
</table>

SOURCE: International Historical Statistics

Document C

Analyzing Documents

Use your knowledge of the industrial age and Documents A, B, C, and D to answer questions 1–4.

1. What cause of the earthquake described in Document A was
   A. an underground fault in London.
   B. poorly constructed tall buildings.
   C. construction of a railroad.
   D. deep pits and trenches in the ground.

2. Which inventions from Document B had the most impact on New York City at the time Document D was created?
   A. trolley cars, steel alloy, cash registers
   B. dynamite, telephones, cash registers
   C. cement, locomotives, telephones
   D. cement, locomotives, dynamite

3. Which trend does Document C illustrate?
   A. the shift in population from Europe to the United States
   B. the shift in population from East Coast to West Coast
   C. the increase in population of cities
   D. the decrease in rural population

4. Writing Task: What were the most significant features of the modern city? Why? Use the information from Documents A through D, as well as what you’ve learned in this chapter, to support your opinion.

Document D

Brooklyn Bridge, 1883

Writing About History

As students begin the assignment, refer them to page SH12 of the Writing Handbook for help in writing a problem-solution essay. Remind them of the steps they should take to complete their assignment, including prewriting, drafting, and revising. For help in revising, remind them to use the guidelines on page SH12 of the Writing Handbook.

Students’ problem-solving essays should focus on a narrow topic that they can address effectively in their essay. They should develop a working thesis with specific details and examples to support it. Their essays should show evidence of thoughtful organization and be free of grammatical and spelling errors. For scoring rubrics for writing assignments, see Assessment Rubrics, p. 8.

Answers

1. C
2. B
3. C
4. Responses should show a clear understanding that innovations shaped the modern city and should use specific evidence from the documents and the chapter to support students’ conclusions.