



TEACHER GUIDE

- Assessment Rubric 4
- How Is Our Resource Organized? 5
- Bloom’s Taxonomy for Reading Comprehension 6
- Vocabulary 6

STUDENT HANDOUTS

READING COMPREHENSION

- *Technology and Globalization: An Overview* 7
- *Industrialization* 7
- *Communications Technology*
- *The World Wide Web*
- *Technology for Transporting Goods*
- *Travel Technology*
- *Energy Technology*
- *Space Technology*
- Hands-on Activities 11
- Crossword 15
- Word Search 16
- Comprehension Quiz 17

EASY MARKING™ ANSWER KEY 19

MINI POSTERS 21

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Industrialization

1. Use a dictionary to look up the word INDUSTRIAL. Write the definition on the spaces provided.

The definition of **industrial** is:

2. Think about the kinds of products that are made by industrial processes.

- a) On the spaces provided, list five things that you use in your everyday life that were made in a factory by industrial processes.

- b) How long do you think people have been making products using industrial processes? Where do you think the development of industrial processes occurred? Write your responses on the spaces provided.



Industrialization

In 18th century England, developments in technology rapidly changed agriculture, manufacturing, and transportation. This period, from 1760-1850, is known as the **Industrial Revolution**. The use of metal tools in agriculture and the development of a scientific understanding of crops led to farming techniques that greatly increased the yield of foods and raw materials for producing fabrics, or **textiles**. The manual labor once used to spin textiles and produce other common household goods was largely replaced by machines. Energy technologies, such as steam generators, powered these machines. Coal mining produced fuel to heat water in the steam generators. Factories filled with machines were built along sources of water used for energy production. Industrial technologies improved the quality and efficiency of steel production, providing raw materials for machinery. The development of steam trains allowed for faster and more efficient movement of fuels, raw materials, goods, and people.



An old factory during the industrial revolution

What was the Industrial Revolution?



During **industrialization**, the way of life changed for a large part of the population. People moved from farm living in agricultural settings to industrialized lifestyles in growing cities. Men, women, and children became workers in factories and mines, which was often dangerous, difficult, and dirty work with very long hours and little pay. Coal burning caused excessive pollution in and around factory towns. Eventually, laws governing labor, health, and environmental conditions helped lessen some of the worst effects of the industrial revolution.

The Globalization of Industrialization

The Industrial Revolution quickly spread from England to the United States and other countries. Nations that have become industrialized are called **developed nations**. Over the last two hundred years, many nations have followed a path to industrialization that was similar to England's Industrial Revolution. **Developing nations** are those that are currently in the process of industrializing. **Underdeveloped** nations are still largely unindustrialized and rural.



Industrialization

1. Use the terms in the box to answer each question.

Industrial Revolution steam engines manufacturing
agriculture coal steel steam trains

- a) The burning of which fuel powered steam engines?
- b) What is another word for making goods in a factory?
- c) What technology allowed for faster and more efficient movement of fuels, raw materials, goods, and people?
- d) What is the period from 1760-1850 in England when developments in technology rapidly changed agriculture, manufacturing, and transportation?
- e) What material is used to make machine parts in factories?
- f) What is another word for farming?
- g) What technology powered industrial machines inside factories?

2. Fill in the chart below with descriptions to compare developed nations, developing nations, and underdeveloped nations.

Developed Nations	Developing Nations	Underdeveloped Nations



Activity Two

Write a Play About an Inventor

Write a short screenplay about an inventor whose work influenced globalization by helping advance communications, transportation, energy, or space technologies.

Before You Begin

Brainstorm a list of inventions that have helped accelerate the pace of globalization. Use the internet or library resources to find out the names of the inventors. Choose one of the inventors to learn more about.

Do Your Research

Use the internet or library resources to learn about the life of the inventor. Try to find out about:

- when and where the inventor was born;
- where the inventor lived and worked;
- the inventor's education;
- the inventions;
- how the inventions changed people's lives;
- whether the inventor received a patent for his or her invention;
- what companies, if any, manufactured the invention;
- any conflicts the inventor may have had surrounding the invention;
- any interesting stories about the life of the inventor.

Write the Screenplay

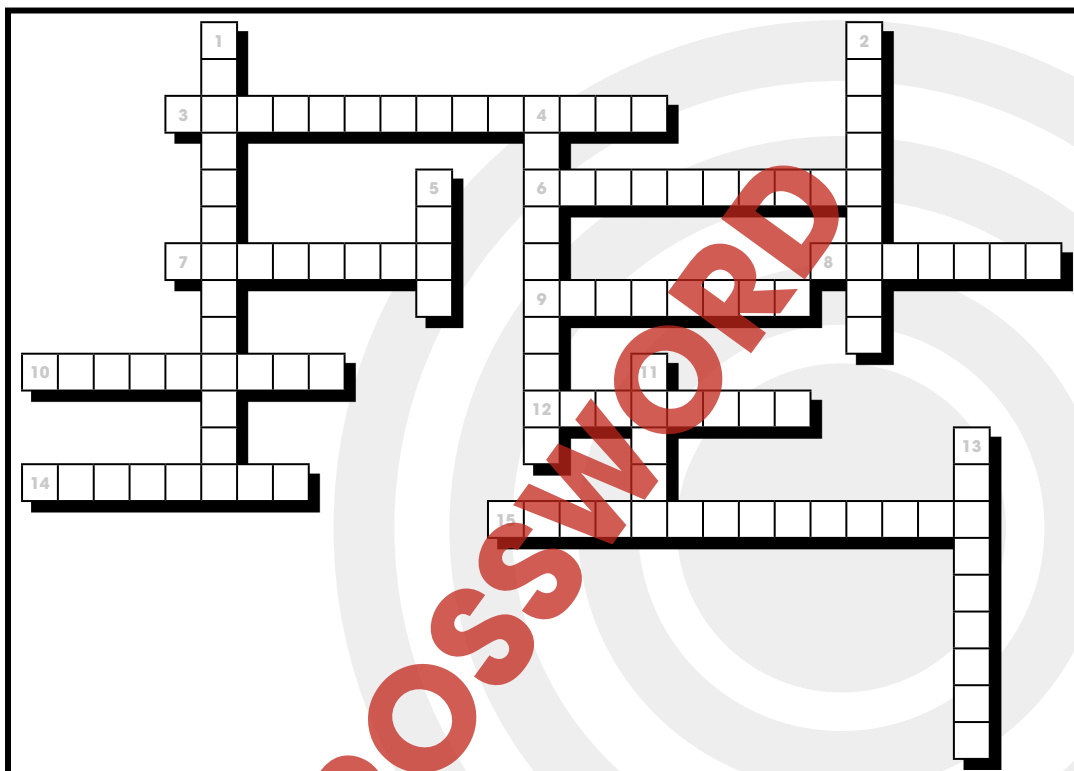
Write an outline of the story that will be covered in your screenplay. Don't forget to include information about the inventor's life and the historical context of the invention. Then, write the lines and set directions for your screenplay. You may wish to look at examples of screenplays to get ideas about the format of a screenplay.

Produce the Screenplay

Choose classmates to act out the roles of characters in your screenplay. Gather materials needed to make backdrops and settings. If possible, use a video camera to record your screenplay.



Crossword Puzzle!



Across

- 3. _____ technology helps people exchange information
- 6. a nation that is undergoing industrialization
- 7. able to read
- 8. increased greenhouse gas concentration leads to global _____
- 9. fabrics, such as cotton and wool
- 10. harmful substances that people put into the environment

Down

- 1. the movement of people, ideas, and goods around the world
- 2. a 19th century invention using codes to send messages along wires
- 4. related to the use of manufacturing and machines

- 5. petroleum gas is a fossil _____
- 11. greenhouse _____ trap heat in the atmosphere
- 13. a source of energy that can be used again and again or does not run out

Word List

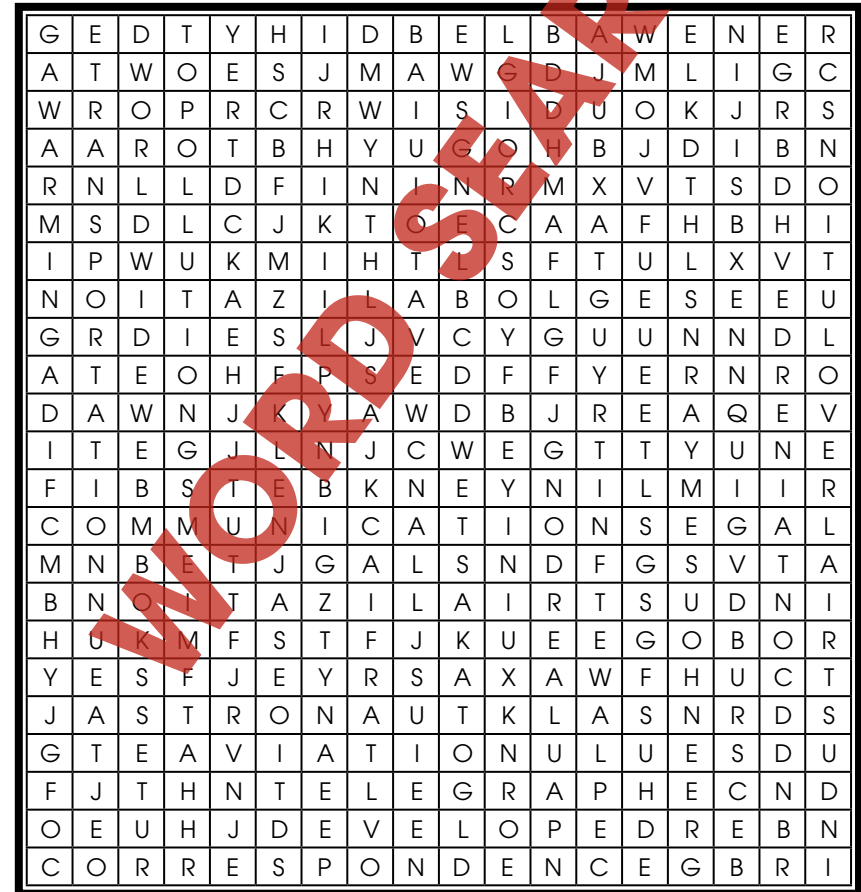
- aviation
- communications
- developing
- fuel
- gases
- globalization
- industrial
- internet
- literate
- pollution
- renewable
- telegraph
- textiles
- transportation
- warming



Word Search

Find all of the words in the Word Search. Words are written horizontally, vertically, diagonally, and some are even written backwards.

- | | | | |
|----------------|-----------------------|-----------|----------------|
| astronaut | energy | literate | space |
| aviation | fuel | migrate | technology |
| communications | globalization | nation | telegraph |
| container | greenhouse | ocean | textiles |
| correspondence | Industrial Revolution | orbit | transportation |
| developed | industrialization | pollution | warming |
| digitize | internet | renewable | World Wide Web |



Comprehension Quiz

Part C

Answer each question in complete sentences.

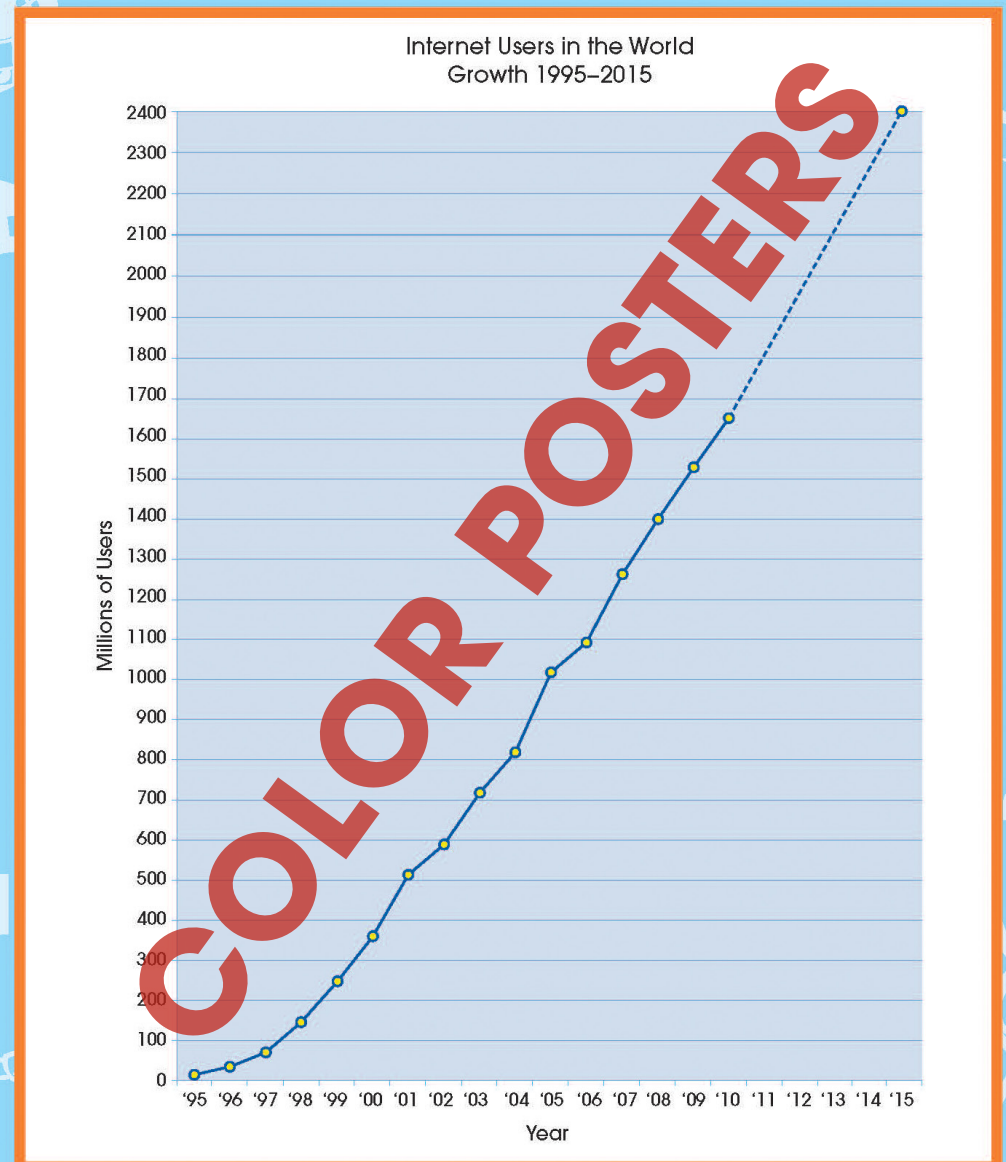
1. Explain how developments in transportation technology have increased the pace of global travel during the last 200 years. 2

2. Explain how technology allows goods to be shipped efficiently around the world. 2

3. Describe two ways that satellite technology is used to help people communicate, get information, or travel in a globalized world. 2

4. Compare and contrast how people in the 19th century and modern people communicated with faraway family members. 2

Global Access and Use of the Internet





After You Read

NAME: _____



Industrialization



3. a) Explain how life for ordinary people changed during the Industrial Revolution.

b) Explain why industrialization can cause pollution problems.

Research

Write a Report

4. Imagine you are on a United Nations panel that studies developing nations and makes recommendations about how to help people through the process of industrialization.

Using the internet or library resources, first find out which nations are currently considered developing nations. Then, choose one nation to study in more detail. Find out about:

- when the process of industrialization began;
- what life was like before industrialization began;
- how life has been changing;
- what problems are being caused by industrialization;
- how people are benefiting from industrialization.

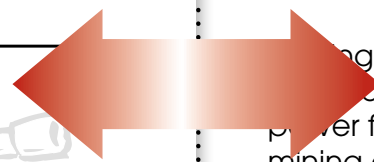
Using this information, write a report detailing where the nation currently is in the process of industrialization. Address any problems and make recommendations about how the problems could be alleviated and how people could be assisted through the changes that come with industrialization.



3.

a) Answers will vary but may include, people used machines to do tasks that were once done by hand; people worked in factories instead of farms.

...ing coal or
...ossil fuels to
...ver factories;
...ining coal.



EASY MARKING ANSWER KEY

