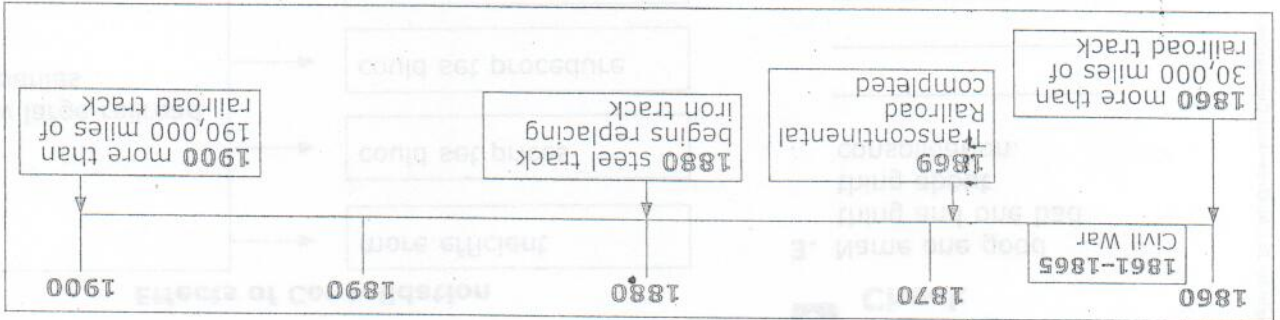


Now...	What industries benefited from railroads?	How did railroad companies expand?
Later...		

In the first column, answer the questions based on what you know before you study. After this lesson, complete the last column.

What do you know?



When did it happen?

Terms to know

consolidation combining companies who ran a large railroad
 standard gauge the distance between the rails used by all American railroads
 rebate discount
 pool a group of businessmen who made secret agreements about prices and customers

1. How did railroads pave the way for growth and expansion?
2. What industries benefited from the expansion of the railroad system?

GUIDING QUESTIONS

ESSENTIAL QUESTION
 How does technology change the way people live and work?

Lesson 1: Railroads Lead the Way.



The Industrial Age!

Age!

Due in class:

NAME:

DATE:

NAME _____

DATE _____

CLASS _____

The Growth of Railroads

Many railroads were built between 1850 and 1900. More railroads helped the economy to grow.

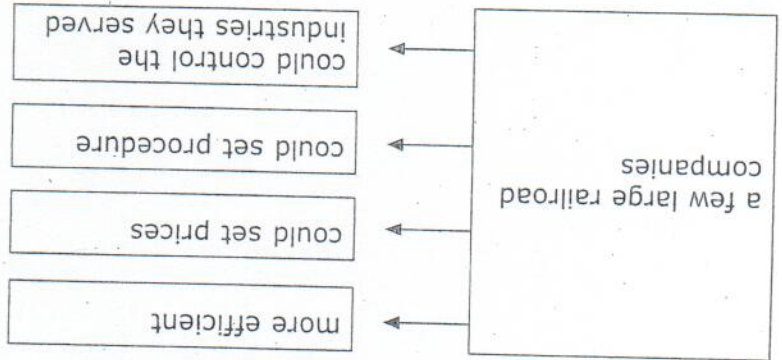
Quick Facts About Railroad Tracks

- In 1860 there were 30,000 miles (48,280 km) of railroad track—almost as much as all the other countries in the world put together.
- By 1900, there were almost 193,000 miles (310,603 km) of railroad track.
- Between 1870 and 1916, workers put down about 11 miles (18 km) of track each day.

There are some well-known songs from that era. Two of the songs are "John Henry" and "I've Been Working on the Railroad." Those who worked on the tracks often sang these songs.

Often, several companies would combine to form one larger company. Combining companies is called **consolidation** (kuhn • sah • luh • DAY • shun). Sometimes large railroad companies would buy up smaller companies. Sometimes large railroad companies would put the smaller companies out of business.

Effects of Consolidation



Powerful businessmen ran large railroads. These men were called **railroad barons** (BEHR • uhnz). One of the first railroad barons was Cornelius Vanderbilt. His railroad began in New York City and ended at the Great Lakes. James J. Hill was a second railroad baron. His company built the Great Northern Line. This railroad line went from Minnesota west to Washington State. Collis P. Huntington and Leland Stanford were two other railroad barons. They started a railroad line called the Central Pacific Railroad. The Central Pacific Railroad went

Drawing Conclusions

1. Reread Quick Facts About Railroad Tracks. What can you conclude about the American economy in the late 1800s?

Defining

2. What is consolidation?

Reading Check

3. Name one good thing and one bad thing about consolidation.

Listing

4. List the names of three railroad barons.

NAME _____

DATE _____

CLASS _____

Mark the Text

5. Underline the meaning of *transcontinental* in the text.

Identifying

6. What was one advantage of large railroad companies? What was one disadvantage?

Explaining

7. How did railroads help the steel industry grow?

Understanding Cause and Effect

8. Why did standard gauge track make shipping faster and less expensive?

from California to Utah. It made up part of the transcontinental railroad. Transcontinental means crossing the entire continent.

There were not many laws to control how the railroad barons ran their businesses. They competed fiercely with each other. One advantage of large railroad companies was that they were efficient. A disadvantage was that they drove small companies out of business. This led to less competition.

Railroads Aid Economic Growth

The growth of railroads changed the United States. More railroads made it easier for factories to get raw materials, such as lumber or iron ore. Trains carried finished goods from factories to places where they were sold. Railroads carried crops from farms to cities.

iron	tracks and locomotive engines
steel	tracks
lumber	wood for railway ties (holds tracks together)
coal	powered the steam engines that pulled railroad cars

Many industries and jobs benefited from the growth of railroads. Railroad companies provided thousands of jobs. The first railroads only went short distances. Each railroad company had its own kind of railroad tracks. This means the tracks of different companies were different distances apart. The train cars that belonged to one railroad company could not use another company's tracks because they were too narrow or too wide.

This was a problem. If a manufacturer had to use more than one railroad line to ship goods, workers had to unload goods from one train and reload them on another. This slowed down rail travel and made it more expensive.

This problem was solved when companies consolidated. They all began to use tracks that were the same width. This was called **standard gauge** track. Goods no longer had to be unloaded from one train and loaded onto another. This reduced shipping time and shipping costs.

Lesson 1 Railroads Lead the Way, Continued

The Industrial Age

networks

NAME _____

DATE _____

CLASS _____

- New technology improved railway transportation.
- George Westinghouse designed air brakes. This made trains safer.
- Eli H. Janney made "car couplers." They made it easier for railroad workers to link cars together.
- Gustavus Swift developed refrigerated railroad cars. This made it possible to keep meat and crops cold. They could be shipped over long distances without spoiling.
- George Pullman developed a "sleeping car." The seats opened out into beds.

9. What were some new technologies that improved railroad travel?

Reading Check

10. What is a rebate?

Defining

Railroad companies competed with each other for customers. Large railroad companies gave their big customers discounts on shipping charges. These discounts were called **rebates**. Smaller railroad companies could not afford to give such discounts. They lost customers to large railroads, and often went out of business.

Large railroads also made secret agreements with each other to form **pools**. Companies in a pool secretly set prices and divided up business. There were some laws to stop railroads from doing things like this, but they were not effective.

The growth of railroads changed the United States. They helped industry expand into the West. They also carried settlers west. They helped people move from rural areas to cities.

Check for Understanding

List three industries that were helped by the growth of railroads.

What changes did railroads bring to the United States?

11. Place a one-tab Foldable over Check for Understanding.

FOLDABLES

Label the anchor tab *Railroads* and draw a railroad track across the middle of the Foldable. Around the track, list words and phrases that you remember about the importance of railroads to the growth of America. Use your Foldable to help answer Check for Understanding.