

Wires, Wheels, and Work

Trace how innovations connected production, trade, and growth.

8.27 "Science, technology, and society. The student understands the impact of science and technology on the economic development of the United States..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each technological innovation. Circle its effects, then write M beside effects on manufacturing, D beside effects on distribution, or G beside effects on economic growth.

Connecting an Expanding Economy

- ① In the early 1800s, rivers served as major travel routes, but upstream trips were slow when boats depended on wind or current. Steamboats used steam power to move against currents on rivers such as the Mississippi. Farmers and merchants could send crops and supplies more predictably between inland towns and port cities. The cotton gin quickly separated cotton fibers from seeds. It made cotton growing more profitable, increased demand for enslaved labor in the South, and supplied more raw cotton to textile mills.
- ② Factories changed how many goods were made. Instead of one craft worker producing a whole item, workers often repeated specialized steps with machines. Interchangeable parts, made to standard sizes, let manufacturers assemble and repair products faster because one matching part could replace another. Factory owners could produce large numbers of similar goods at lower cost. The telegraph sent coded messages over wires in minutes rather than days or weeks. Businesses used it to learn prices, place orders, and coordinate shipments across distant markets.
- ③ In 1869, the Transcontinental Railroad connected rail lines across the United States. Railroads moved people, raw materials, and finished goods more quickly and cheaply than many older routes. A manufacturer could obtain materials from one region and sell products in another, helping create a national market. Railroad links to seaports also supported international trade by carrying exports such as grain and manufactured goods. These connected systems encouraged investment, expanded factories and towns, and created jobs, though the gains were not shared equally by all workers and communities.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How did steamboats change the way farmers and merchants distributed goods?

2 Explain how interchangeable parts and factory work changed manufacturing compared with one craft worker making a whole item.

3 How did the telegraph help businesses distribute goods across distant markets?

4 How did the Transcontinental Railroad support both national and international economic growth?

3 YOUR TURN _____ Your own words

Choose one innovation from the passage. Write exactly 4 sentences that explain its immediate effect, trace how it changed manufacturing or distribution, and show how it contributed to economic growth. Include at least two clear cause-and-effect links.

PART 1 • READ AND MARK

Underline each technological innovation. Circle its effects, then write M beside effects on manufacturing, D beside effects on distribution, or G beside effects on economic growth. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did steamboats change the way farmers and merchants distributed goods?	Steamboats could travel against river currents, so farmers and merchants could move crops and supplies more predictably between inland towns and port cities.
2	Explain how interchangeable parts and factory work changed manufacturing compared with one craft worker making a whole item.	Factory workers repeated specialized steps with machines, and standard-size interchangeable parts made assembly and repairs faster. Factories could produce many similar goods at lower cost.
3	How did the telegraph help businesses distribute goods across distant markets?	The telegraph let businesses learn prices, place orders, and coordinate shipments in minutes instead of days or weeks.
4	How did the Transcontinental Railroad support both national and international economic growth?	It moved materials and finished goods quickly and cheaply among regions, helping create a national market. Links to seaports carried exports overseas, while investment, factories, towns, and jobs expanded.

PART 3 • YOUR TURN (SAMPLE ANSWER)

The cotton gin quickly separated cotton fibers from seeds. Because processing cotton became faster, cotton growing became more profitable. More raw cotton could then be supplied to textile mills for manufacturing. This larger cotton trade supported economic growth, although it also increased demand for enslaved labor in the South.

Accept equivalent cause-and-effect explanations supported by the passage. For the open response, accept any named innovation if the student gives exactly four sentences, includes manufacturing or distribution, and traces at least two logical effects toward economic growth.