

Texas Transformed

Analyze how discoveries and inventions changed communities and work in Texas.

7.19.C “analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each scientific discovery or technological innovation, circle each effect on Texas, and draw an arrow from every underlined item to an effect it caused.

Ideas That Changed Texas

- ① Texas farms changed as scientific research and new machines improved food production. In the early 1900s, researchers developed cotton plants that resisted some diseases. Farmers could lose fewer crops and earn more dependable income. Later, mechanical cotton pickers let fewer workers harvest large fields more quickly. These changes supported larger farms, but they also reduced the need for many field laborers. Agricultural advances therefore changed both the amount of cotton produced and the kinds of jobs available in rural communities.
- ② Oil discoveries and improved drilling methods made energy a major Texas industry. At Spindletop in 1901, a huge oil well showed how much petroleum lay underground, attracting workers and investment to the Gulf Coast. Oil refineries turned crude oil into fuels and other products. Medical advances also shaped Texas. The Texas Medical Center grew in Houston as hospitals, research centers, and medical schools worked together. It brought patients, health-care jobs, and scientific research to the city.
- ③ Computer technology helped Texas businesses and research teams handle information faster. In the late twentieth century, companies in cities such as Austin designed computer hardware and software. This industry created skilled jobs and encouraged related businesses to move nearby. Aerospace innovation had a different effect. NASA's Johnson Space Center in Houston became a center for human spaceflight missions. Engineers, astronauts, contractors, and scientists worked there. The center helped Houston grow as an aerospace and research community, while its work connected Texas to national space exploration.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What were two effects of mechanical cotton pickers on Texas farms and rural workers?

2 How did the Spindletop oil discovery affect the Gulf Coast?

3 How did the Texas Medical Center affect Houston?

4 What effect did computer companies have in Austin, and what effect did Johnson Space Center have in Houston?

3 YOUR TURN _____ Your own words

Choose two innovations from different industries named in the passage. Write exactly three sentences: explain one effect of the first innovation, one effect of the second innovation, and compare how the two innovations changed Texas.

PART 1 • READ AND MARK

Underline each scientific discovery or technological innovation, circle each effect on Texas, and draw an arrow from every underlined item to an effect it caused. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What were two effects of mechanical cotton pickers on Texas farms and rural workers?	They let fewer workers harvest large fields more quickly and reduced the need for many field laborers.
2	How did the Spindletop oil discovery affect the Gulf Coast?	It attracted workers and investment to the Gulf Coast, helping make energy a major Texas industry.
3	How did the Texas Medical Center affect Houston?	It brought patients, health-care jobs, and scientific research to Houston.
4	What effect did computer companies have in Austin, and what effect did Johnson Space Center have in Houston?	Computer companies created skilled jobs and encouraged related businesses to move nearby. Johnson Space Center helped Houston grow as an aerospace and research community and connected Texas to national space exploration.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Mechanical cotton pickers let fewer workers harvest large fields more quickly, but they reduced the need for field laborers. Computer companies in Austin created skilled jobs and drew related businesses nearby. Both innovations changed jobs in Texas, but one reduced a type of rural job while the other added skilled jobs in a city.

Accept any two innovations from different industries that are named in the passage and accurately connected to stated effects. The comparison may identify a similarity or a difference, as long as it is supported by the passage.