

Power and Penicillin

Compare how changes in science and technology shaped everyday life.

8.28.A “compare the effects of scientific discoveries and technological innovations that have influenced daily life in different periods in U.S. history; and”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle each time period, underline each effect on daily life, and write E beside effects of electricity or P beside effects of penicillin. These marks will help you compare changes across periods.

Two Changes, Different Effects

- ① In the late 1800s, electric power moved from a laboratory idea to a daily tool in many U.S. cities. Power stations sent electricity through wires, and homes and businesses began using electric lights. After sunset, stores could stay open later, streets became brighter, and families no longer depended only on candles or kerosene lamps. Not every household received service at first. Rural communities often waited years for lines to reach them, so the change was uneven.
- ② During the 1930s and 1940s, federal rural electrification programs helped extend power lines to farms. Electricity changed work inside farmhouses. Electric pumps brought water more easily, refrigerators kept food longer, and washing machines reduced some exhausting hand labor. Farmers also used powered equipment in barns and workshops. Like city residents decades earlier, rural families gained more choices about when to work, shop, and spend time together. However, building the system required public investment and trained workers.
- ③ In the 1940s, factories learned to produce penicillin in large amounts. This medicine, based on a mold discovery, treated many bacterial infections that once could become deadly. Soldiers and civilians recovered from infections more often, and hospitals could provide new kinds of care. Penicillin did not light homes or reduce chores, as electricity did. Instead, its most direct effect was improving chances of survival. Both changes depended on systems, power networks for electricity and factories, doctors, and hospitals for penicillin.

2 ANSWER WITH EVIDENCE _____ Use the passage

- 1** Compare access to electricity for city residents in the late 1800s with access for rural families in the 1930s and 1940s.

- 2** How did electricity and penicillin affect daily life in different ways? Give one effect of each.

- 3** What systems were needed for electricity and for penicillin to affect people's lives?

- 4** Which change had the more direct effect on survival, and what evidence from the passage supports your answer?

3 YOUR TURN _____ Your own words

Choose two technological innovations you know, one from before 1950 and one from after 1950. Write exactly five sentences comparing their effects on daily life, including one system each innovation needed and one important similarity or difference.

PART 1 • READ AND MARK

Circle each time period, underline each effect on daily life, and write E beside effects of electricity or P beside effects of penicillin. These marks will help you compare changes across periods. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Compare access to electricity for city residents in the late 1800s with access for rural families in the 1930s and 1940s.	Many city homes and businesses began using electric lights in the late 1800s, while many rural families waited years for power lines until rural electrification programs extended service to farms.
2	How did electricity and penicillin affect daily life in different ways? Give one effect of each.	Electricity changed routines by providing light and reducing some household and farm work. Penicillin improved recovery from bacterial infections and increased chances of survival.
3	What systems were needed for electricity and for penicillin to affect people's lives?	Electricity needed power stations and power networks. Penicillin needed factories to produce it, plus doctors and hospitals to use it.
4	Which change had the more direct effect on survival, and what evidence from the passage supports your answer?	Penicillin had the more direct effect on survival because it treated bacterial infections that once could become deadly and helped people recover more often.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Automobiles became common in the early 1900s and let many people travel farther without relying on train schedules. They changed commuting, shopping, and where families could live, but they required roads, fuel, and repair shops. In the 2000s, smartphones let people communicate, navigate, and find information while away from home. They require cellular networks, electricity, and internet service. Both innovations increased choices, but automobiles changed physical travel while smartphones changed access to communication and information.

Accept equivalent comparisons that accurately connect each development to a daily-life effect and use evidence from the passage. For the open response, accept any accurate pair from different periods that includes five sentences, effects, needed systems, and a valid comparison.