Machines and Mills

How inventions changed work in industrial Europe

SS24.WH.4a "Describe the technological inventions and labor conditions that characterized the Industrial Revolution in Europe."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Read the passage, then underline two inventions and number the labor conditions you find. Use your marks to describe how technology and working life changed during the Industrial Revolution.

A Cotton Mill Changes Work

1. In the late 1700s, cotton cloth passed through many hands in Britain. A worker first spun cotton fibers into thread, and another wove the thread into cloth. At home, a spinner could make only so much thread in a day. The spinning jenny let one person spin several threads at once. Later, the water frame used a waterwheel to drive spinning rollers, producing strong thread. These machines increased the supply of thread, but the water frame was too large for most homes. Owners gathered machines and workers in mills near rivers, where moving water provided power.

2. Weaving changed as well. The power loom used moving parts to cross threads faster than a hand weaver could. Early mills relied on rivers, but improved steam engines powered machinery with heat from burning coal. Steam power allowed some mills to operate away from fast-flowing streams, often closer to coal, workers, and markets. Railways, also powered by steam engines, moved coal and finished cloth between towns. During the 1800s, factory production spread from Britain to parts of continental Europe, including Belgium and France. The machines raised output, yet they also changed where and how people worked.

3. Inside a cotton mill, workers followed the machines' pace rather than choosing their own hours. Many worked long shifts for low wages, and some workers were children. Children could be hired for less pay than adults and might crawl under machinery to clear loose cotton. Uncovered moving parts could injure workers, while cotton dust filled the air. Owners often imposed strict rules and fines for lateness. Some families depended on factory wages, even when conditions were dangerous. As factories expanded across Europe, workers and reformers pressed governments to limit child labor and improve safety.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did the spinning jenny and water frame change spinning? Explain why the water frame encouraged owners to build mills.

2. Describe two ways steam power changed production or transport.

3. How did the power loom change weaving, and how did mill machinery affect workers' pace of work?

4. Describe two difficult or dangerous mill conditions from the passage. Include one that affected children.

3 YOUR TURN

Your own words

Write a five- or six-sentence note from a factory inspector to a town council in the 1800s. Describe two inventions and two labor conditions, explain how one invention shaped daily work, then propose a specific change and explain how it would help.

ANSWER KEY

Machines and Mills

GRADE 9 · SS24.WH.4a

PART 1 · READ AND MARK

Read the passage, then underline two inventions and number the labor conditions you find. Use your marks to describe how technology and working life changed during the Industrial Revolution. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did the spinning jenny and water frame change spinning? Explain why the water frame encouraged owners to build mills.	**The spinning jenny let one person spin several threads at once. The water frame used a waterwheel to make strong thread, but it was too large for most homes, so owners gathered workers and machines in mills near rivers.**
2	Describe two ways steam power changed production or transport.	**Steam engines powered mill machinery away from fast-flowing streams. They also powered railways that carried coal and finished cloth between towns.**
3	How did the power loom change weaving, and how did mill machinery affect workers' pace of work?	**The power loom crossed threads faster than a hand weaver could. In mills, workers followed the machines' pace instead of choosing their own hours.**
4	Describe two difficult or dangerous mill conditions from the passage. Include one that affected children.	**Workers faced long shifts for low wages. Children might crawl under machinery to clear cotton, where moving parts could injure them.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I visited a cotton mill where the water frame spins thread using water power and the power loom weaves cloth quickly. These machines bring workers together in a mill and keep work moving at the machines' pace. Workers endure long shifts, and children risk injury near uncovered moving parts. I recommend that the council require guards around moving machinery. Guards could reduce injuries when children or adults work close to the machines. The council should inspect mills to make sure owners follow this rule.

Accept other inventions and labor conditions accurately described in the passage. The inspector's proposed change should address a stated condition and include a plausible explanation of how it would help.