From Cotton to Shirts

How inventions changed the amount of work one person could do

8.E.3 "Relate how new technology and inventions brought about changes in labor productivity in the United States in the eighteenth and nineteenth centuries."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each invention, circle words that show how much one worker could produce in a given time, and number the changes in where or how people worked.

More Cotton, More Cloth, More Clothing

1. In 1793, a cotton planter faced a slow job: separating sticky seeds from short-staple cotton fibers. By hand, one worker could clean only a small amount in a day. Eli Whitney's cotton gin used turning parts to pull fibers through narrow openings while leaving most seeds behind. A worker operating a gin could clean far more cotton in the same time. This increase in cleaning productivity made cotton more profitable, but it also encouraged plantation owners to grow more. As plantations expanded, they forced more enslaved people to labor in the fields.

2. Cleaning more cotton created a larger supply of fiber for cloth. In the early 1800s, American mills began using water-powered looms, including those at a Massachusetts mill opened in 1814. Before these machines, a weaver worked a hand loom, moving threads into place by hand and foot. A power loom repeated much of that motion using energy from a waterwheel. One mill worker could oversee faster weaving and produce more cloth per hour than a hand weaver. The machines also moved weaving into factories, where workers followed schedules set by mill owners.

3. By the mid-1800s, sewing machines helped turn woven cloth into shirts and other clothing. Hand sewing required a worker to make stitch after stitch with a needle. A machine formed stitches rapidly as a worker guided the cloth beneath its needle. This let a worker sew more seams in an hour, although cutting and fitting still took time. Clothing shops could make more garments, and some divided production into separate jobs, such as cutting pieces and sewing seams. Higher output per worker did not guarantee higher pay or shorter hours for workers.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did the cotton gin change the amount one worker could clean and the demand for field labor?

2. Compared with a hand loom, how did a water-powered loom change weaving output and where weaving took place?

3. What could a worker produce more quickly with a sewing machine, and which two clothing tasks still took time?

4. Why did higher productivity not necessarily mean less labor or better conditions? Use one example from cotton growing and one from clothing shops.

3 YOUR TURN

Your own words

Imagine a nineteenth-century tool that helps workers cut shirt pieces from cloth. In four sentences, compare cutting before and after your tool, explain how it changes the number of pieces one worker cuts in an hour, and predict one change in workers' tasks.

ANSWER KEY

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GRADE 8 · 8.E.3

PART 1 · READ AND MARK

Underline each invention, circle words that show how much one worker could produce in a given time, and number the changes in where or how people worked. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did the cotton gin change the amount one worker could clean and the demand for field labor?	**One worker could clean far more cotton in the same time. As plantations expanded to grow more cotton, owners forced more enslaved people to work in the fields.**
2	Compared with a hand loom, how did a water-powered loom change weaving output and where weaving took place?	**A mill worker could produce more cloth per hour with a power loom. Weaving moved into factories where workers followed owners' schedules.**
3	What could a worker produce more quickly with a sewing machine, and which two clothing tasks still took time?	**A worker could sew more seams in an hour. Cutting and fitting still took time.**
4	Why did higher productivity not necessarily mean less labor or better conditions? Use one example from cotton growing and one from clothing shops.	**The gin made cleaning faster, but expanding plantations forced more enslaved people into field labor. Clothing shops made more garments, but higher output did not guarantee workers higher pay or shorter hours.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Before the tool, a worker cuts shirt pieces from one layer of cloth at a time. My imagined hand-cranked cutter holds a stack of cloth under a pattern and cuts several matching pieces in one pass. One worker could cut more pieces in an hour because each pass goes through several layers. Workers might spend more time arranging cloth stacks and checking that the pieces match.

Accept plausible tools that change cutting output per worker-hour and explain why. The predicted change in tasks may involve preparing materials, operating the tool, or checking the cut pieces.