More From Each Hour

Productivity, investment, and global connections

SS24.E.10 "Analyze the factors that determine and shape a country's standard of living. 10a Explain how the relationship between inputs and outputs is used to calculate productivity at various levels of the economy..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the inputs and outputs named in the passage, then circle investments that could affect productivity or living standards. Use your marks to trace how an investment might change an outcome.

What Changes a Work Hour?

1 A factory can make more products by hiring more people or by using its workers' time more effectively. Productivity compares output with the input used to produce it. At a plant, dividing parts produced by labor hours gives parts per labor hour. The hypothetical plant below records both totals over two years.

HYPOTHETICAL PARTS PLANT

Year	Parts produced	Labor hours
2024	800	400
2025	1,200	480

2 A country's productivity can be estimated by dividing inflation-adjusted total output by total hours worked across its economy. Unlike finished parts, national output includes many goods and services measured in money terms. If output rises faster than hours, productivity rises. Higher productivity can support higher wages, but it does not guarantee that everyone benefits.

3 Investment connects these numbers to daily life. New equipment, factories, and software can raise output per hour; education and training help workers use them. Healthcare can reduce missed work and improve well-being directly. In Alabama, Huntsville aerospace firms develop space technologies within global supply chains. Across the United States, firms export software services abroad.

2 ANSWER WITH EVIDENCE

Use the passage

1. Calculate the plant's parts per labor hour in each year. What changed?

2. Suppose a country's inflation-adjusted output grows by 4% while its work hours grow by 2%. What happens to productivity? Explain using the passage.

3. Explain one way training and one way healthcare could improve productivity or living standards.

4. How do the Alabama aerospace firms and U.S. software firms described in the passage connect to the global economy?

3 YOUR TURN

Your own words

Imagine a Huntsville aerospace firm invests in a specific new tool not named in the passage. In 5 to 6 sentences, identify an input and output, explain how to calculate productivity, and connect a possible change to global trade and living standards. Include one reason the benefits might not reach everyone.

ANSWER KEY

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GRADE 12 · SS24.E.10

PART 1 · READ AND MARK

Underline the inputs and outputs named in the passage, then circle investments that could affect productivity or living standards. Use your marks to trace how an investment might change an outcome. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Calculate the plant's parts per labor hour in each year. What changed?	**2024: 800 ÷ 400 = 2 parts per labor hour. 2025: 1,200 ÷ 480 = 2.5 parts per labor hour. Productivity rose by 0.5 part per labor hour.**
2	Suppose a country's inflation-adjusted output grows by 4% while its work hours grow by 2%. What happens to productivity? Explain using the passage.	**Productivity rises because output grows faster than the hours used to produce it.**
3	Explain one way training and one way healthcare could improve productivity or living standards.	**Training can help workers use equipment effectively and produce more per hour. Healthcare can reduce missed work and improve well-being directly.**
4	How do the Alabama aerospace firms and U.S. software firms described in the passage connect to the global economy?	**Huntsville aerospace firms develop space technologies within global supply chains, while U.S. firms export software services abroad.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

A Huntsville aerospace company could buy a new satellite-parts testing chamber. I would track completed parts that pass inspection as output and technician hours as input, then divide passing parts by those hours to calculate productivity. If the chamber reduces time spent repeating tests, the firm might supply more parts to customers abroad without adding hours. More sales could support higher local wages and tax revenue for services. However, the gains might go mainly to owners unless workers' pay rises.

Accept equivalent calculations and explanations that distinguish greater total output from greater output per hour. For the open task, accept plausible investments and qualified predictions rather than requiring a guaranteed increase in wages or trade.