NO PREP

Economic Growth & Productivity

Drivers of Prosperity

Includes: Student reading, case study, differentiated questions, teacher key

Name: Period: Date:

Economic Growth & Productivity: Drivers of Prosperity

Economic Growth vs. Economic Development

Economic growth refers to increases in a country's real GDP over time, signaling more goods and services produced. Economic development, however, encompasses improvements in living standards, health, and education—measures often captured by the Human Development Index (HDI). A country may exhibit rapid GDP growth yet lag on development if gains concentrate among a small elite or harm the environment. For high school students, distinguishing growth from development highlights why policies must aim not only for larger output but also for equitable, sustainable progress.

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Sources of Productivity: Labor and Capital

Productivity, the output per unit of input, is the engine of growth. Labor productivity improves as workers become more skilled or as the number of hours worked yields greater output through training and technology. Capital deepening, where firms invest in machinery and infrastructure, boosts output per worker. For example, adding high-speed manufacturing robots can allow a single employee to oversee many more production steps. Both labor and capital require supportive institutions: secure property rights, efficient markets, and access to credit encourage firms and individuals to innovate and invest in productivity enhancements.

Total Factor Productivity and Innovation

Beyond labor and capital lies Total Factor Productivity (TFP), the efficiency with which all inputs combine. TFP gains arise from technological innovation, better management practices, and economies of scale. Consider the digital revolution: improvements in information technology have enabled exponential gains in TFP by automating tasks and facilitating global coordination. Measuring TFP involves

comparing actual GDP growth to that predicted by labor and capital increases: TFP growth = GDP growth – (a·labor growth + (1–a)·capital growth), where a is labor's share of income. High schoolers can see that TFP captures "the magic" of ideas and know-how turning inputs into greater outputs.

Measuring Growth with GDP per Capita

Dividing aggregate GDP by population yields GDP per capita, a rough proxy for average income and living standards. Rapid GDP growth in a populous country may leave per capita gains modest; conversely, smaller economies can achieve significant per capita increases with modest total growth. Comparing per capita GDP across nations provides insights: in 2023, advanced economies averaged over $50,000 per person, while many emerging markets averaged below $10,000. Yet per capita measures omit distributional details: two countries with identical figures could differ vastly in inequality.

Policies for Sustainable Growth

Long-term growth requires policies that foster human capital, encourage research and development, and maintain macroeconomic stability. Investments in education and health strengthen labor productivity. Tax incentives and grants spur private R&D. Infrastructure projects—roads, broadband, energy grids—reduce transaction costs. Prudent fiscal and monetary policy anchor inflation expectations and interest rates, ensuring firms can plan investments without fearing volatility. Environmental regulations can incentivize green innovation, aligning growth with sustainability.

Key Information

Source	Contribution to Growth (%)	Example
Labor	50	Higher education graduation rates
Capital	30	New factory construction
Total Factor Productivity	20	Automation software rollout

Case Study Excerpt: "South Korea's Rise from War to Wealth"

In the aftermath of the Korean War (1950–1953), South Korea was one of the poorest countries, with GDP per capita near $100 in 1954. The government, led by President Park Chung-hee, embarked on a state-led industrialization strategy in the 1960s, focusing on export-oriented growth. Through five-year economic plans, Seoul channeled resources into key sectors—textiles, shipbuilding, electronics—while establishing the Korea Development Institute to coordinate policy. Concurrently, massive investments in public education raised literacy rates from 22% in 1945 to nearly 93% by 1980. From 1960 to 1990, South Korea's real GDP grew at an average of 8.4% per year, with productivity improvements accounting for roughly 40% of that growth. By 1995, GDP per capita exceeded $10,000, transforming a war-torn agrarian society into a high-tech industrial powerhouse. The case illustrates how coordinated policies in human capital, industrial planning, and open trade can synergize labor, capital, and TFP to deliver sustained prosperity.

1. Which three policy areas were most critical to South Korea's productivity surge, and why?

2. How did export orientation amplify TFP gains in South Korea's economy?

Multiple Choice

1. Capital deepening refers to:

    a) Expanding population growth over time

    b) Improving educational systems nationwide

    c) Raising the amount of equipment or infrastructure per worker

    d) Increasing the skill level and training of the existing workforce

2. Total Factor Productivity growth captures:

    a) Broad changes in population demographics

    b) The total amount of government spending on R&D programs

    c) Efficiency gains beyond labor and capital increases

    d) Only labor input changes annually

3. A high GDP per capita with large inequality means:

    a) Growth has been evenly distributed to all households

    b) The country has low total GDP overall

    c) Everyone is equally well off financially

    d) Average output is high but distribution may be unfair

Matching

Write the letter of the correct definition on the line next to each term.

Term	Definition
1. ___ Human Capital	A) Strategy focusing on selling goods to foreign markets
2. ___ Export-Oriented Growth	B) Spending on research to drive innovation
3. ___ Productivity	C) Skills and knowledge embodied in the workforce
4. ___ Capital Deepening	D) Output per unit of input
5. ___ R&D Investment	E) Machinery and structures that increase output per worker

Fill-in-the-Blank

1. TFP growth is calculated as GDP growth minus contributions from _____ and _____.

2. South Korea's literacy rate rose to nearly ____ by 1980.

3. Export-oriented policies help generate _____ for further investment.

Short Answer

Answer each question in 2-4 complete sentences.

1. Explain why human capital investment is vital for long-term productivity.

_____

_____

_____

2. Describe one drawback of relying heavily on export-led growth.

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3. Summarize how TFP differs from labor productivity.

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