



POWELL CENTER FOR
ECONOMIC LITERACY

Lesson Plan

WRITTEN BY

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Last Modified: November 23, 2010

What in the World is GDP?

Time Required

2 – 3 class periods

Grade Level and Subject

High School, Economics (Macro or A.P.)

Keystone Economic Principles™

Principle #8 – [Quantity and Quality of Available Resources Impact Living Standards.](#)

Voluntary National Content Standards in Economics

Standard 15 – [Economic Growth](#)

Economic Concepts

Gross Domestic Product (GDP) -- *The market value of all final goods and services produced in a country in a calendar year.*

Real Gross Domestic Product (GDP) -- *GDP measured in dollars of constant purchasing power. The measure is obtained by adjusting nominal GDP (GDP measured in current prices) by an appropriate price index, usually the implicit price deflator. Often used as a measure of economic activity.*

Per Capita Gross Domestic Product (GDP) – *The total market value of all final goods and services produced in an economy in a given year divided by the population.*

Standard of Living -- *The level of subsistence of a nation, social class or individual with reference to the adequacy of necessities and comforts of daily life. According to Gregory*

Mankiw, "A Country's Standard of Living Depends on Its Ability to Produce Goods and Services. Countries whose workers produce a large quantity of goods and services per unit of time enjoy a high standard of living. Similarly, as a nation's productivity grows, so does its average income." (Source: N. Gregory Mankiw *Principles of Economics 2e.*) Factors that affect a nation's standard of living include literacy rates, infant mortality rates, infrastructure, availability of technology, for example.

Nobel Prize – "Since 1901, the Nobel Prize has been honoring men and women from all corners of the globe for outstanding achievements in physics, chemistry, medicine, literature, and for work in peace. (Source: www.Nobelprize.org)

Mohammed Yunus -- Economist who won the Nobel Peace Prize in 2006 for his development of the micro loan program in Bangladesh.

Micro credit -- A program that makes small loans available to persons to start their own business. These persons would have ordinarily been denied loans from banks. Over 97% of the micro loans made by Mohammed Yunus were to women.

Rule of 70 – A mathematical rule for determining the number of years it will take for an investment to double in value. The number of years is determined by dividing 70 by the annual rate of return (or growth rate). Thus, an investment expected to earn interest at a rate of 8 percent will double an investor's funds in $70/8$, or 8.75 years. Dividing 70 by the number of years in which an investor wishes to double his or her return will yield the necessary rate.

Overview

What in the world is GDP? Why is it important for GDP to grow? What did an economics professor do to merit winning the Nobel Peace Prize? Students will travel abroad to Bangladesh with the help of !IZZIT's *Pennies a Day* and the CIA's World Factbook to investigate the answers to these questions. Bon Voyage!

Objectives

- Define Real Gross Domestic Product and Per Capita Gross Domestic Product.
- Determine the relationship between a nation's GDP and its Standard of Living.
- Describe the loan program devised by the Grameen Bank.
- Describe the results of the micro-credit program in Bangladesh.
- Describe the results of the micro-credit program in the United States.
- Compare and contrast the GDP's of different nations in the world.
- Compare the GDP's of different nations with the GDP of states within the United States of America.
- Provide a biographical sketch of Muhammad Yunus.
- Define the Rule of 70 and detail how this "rule" can determine a nation's growth rate and how this growth rate may affect the nation's standard of living.

Materials and Handouts

- Visual 1 – Key Terms
- Visual 2 – Rule of 70
- **Handout #1** – Strange GDP Maps by Frank Jacob. One per student.

- **Handout #2** – What in the World is GDP? (Student assessment) one per student
- **Handout #3** – Can Microfinance Make it In America?
<http://www.time.com/time/magazine/article/0,9171,1950949-2,00.html>, one per student
- Video *Pennies a Day* by !IZZIT. To order this video go to <http://www.izzit.org/>. (Register for a free membership which entitles you to one free video per year.)
- Video *Teaching Tools for Macroeconomics, Government and International Trade from John Stossel*. This video can be ordered from <http://abcnews.go.com/2020/Stossel/story?id=1936941> (Cost is \$29.95).
Summaries of the clips can be accessed from the Gus A. Stavros Center at Florida State University at <http://www.coss.fsu.edu/stavros/resources/stossel>.
- Three colored pencils for each student.

Teaching Activity

1. Display Visual 1 – Key Terms. Review the terms.
2. Explain to students that they will “travel” to Bangladesh and meet Dr. Muhammad Yunus in the !IZZIT’s video *Pennies a Day*.
3. Review the 10 discussion questions posed in the video packet. These questions from the !IZZIT accompanying insert are:
 1. What challenges has the young nation of Bangladesh faced?
 2. Before Grameen Bank, what options did villagers have for borrowing money?
 3. What was inexplicable to the economist, Muhammad Yunus?
 4. What is microcredit?
 5. Why are nearly all Grameen loans given to women? Why were husbands initially opposed to Grameen loans?
 6. Why are the Center Meetings so important to the success of Grameen Bank?
 7. What are some examples of the types of projects funded by Grameen loans?
 8. What is the payback rate for Grameen loans?
 9. What were the social effects of financial success, particularly for women?
 10. What are some measures of the growth and success of Grameen Bank?
 11. What is Muhammad Yunus’ vision for Bangladesh’s future?
 12. Is microcredit needed in America? If so, would it work?
 13. If you could get a microloan, what type of business would you start?
4. Distribute a copy of the *Time* Magazine article, “Can Microfinance Make It in America?” Direct students to read the article. Lead a discussion that answers the question posed in the article’s title.
5. Explain to students that they will “travel” to India, North Korea, Syria, Haiti, Hong Kong, Switzerland, and New Zealand as they watch two clips from *Teaching Tools for Macroeconomics, Government and International Trade from John Stossel*. Explain that these clips will highlight the importance of trade, GDP growth, and standard of living.

6. Show Clip # 9: Economic Freedom and Prosperity (2.16 minutes) and Clip #10: Institutions, Growth, and Freedom (11.04 minutes).
7. Explain to students that a nation's GDP is a measure of a nation's standard of living and that many *countries* in the world produce goods and services that compare with many of the GDPs of *states* within the United States.
8. Distribute **Handout #1** – Strange GDP Map.
9. Ask: What state has a GDP equivalent to Bangladesh? (Answer: New Hampshire.)
10. Ask: What country has a GDP equivalent of our state? (Answers will vary of course. Students in Alabama would answer “Iran” and students in Texas would answer “Canada.”)
11. Direct students to choose a state/country they would like to research. Teachers should keep a record of what is chosen on their own map copy.
12. Distribute three colored pencils to each student and have them color their chosen “state/country” one color, Bangladesh another color, and the state in which they currently live a third color.
13. Explain to students that with the help of the CIA, they will “investigate” the economic data from their three countries/states that they colored on their map.
14. Distribute Handout #2 – What in the World is GDP? Student Assessment and direct students to read the directions provided on the top of the assessment.
15. If computers are available, direct the students to access the CIA website at <https://www.cia.gov/library/publications/the-world-factbook/>
If computers are not available, teachers should select certain countries in the CIA World Factbook for students to explore.
16. Collect the data from the CIA World Factbook website to complete the table included in **Handout #2** (Student Assessment).
17. Direct students to answer Question #1 regarding the Human Development Index.
18. Direct students to stand up and share one fact about their chosen state/country's standard of living. Other students will write down this fact on their map.
19. Ask: Why do you think it is important for a nation's GDP to grow? (Answer: To help provide a higher standard of living for citizens of the country.)
20. Explain to students that a simple formula called the Rule of 70 (some textbooks refer to this as the Rule of 72) can help predict how many years it would take for the production of goods and services to double in a nation given its current growth rate.
21. Display Visual 2: Rule of 70. Review the calculation.
22. Refer students back to Handout #2 – What in the World is GDP? Student Assessment and direct them to complete the activity by answering Questions 2 and 3.

FINAL REVIEW

Review the main points of the lesson by asking the following questions:

- A. Define (GDP) Gross Domestic Product and Per Capita GDP.
- B. Determine the relationship between a nation's GDP and its Standard of Living.
- C. Describe the loan program devised by the Grameen Bank.
- D. Describe the results of the micro-credit program in Bangladesh.

- E. Describe the results of the micro-credit program in the United States.
- F. Compare and contrast the GDP's of different nations in the world.
- G. Compare the GDP's of different nations with the GDP of states within the United States of America.
- H. Provide a biographical sketch of Muhammad Yunus.
- I. Define the Rule of 70 and detail how this "rule" can determine a nation's growth rate and how this growth rate may affect the nation's standard of living.

Visual #1

Key Definitions

Gross Domestic Product (GDP): The market value of all final goods and services produced in a country in a calendar year.

Real Gross Domestic Product (GDP) GDP measured in dollars of constant purchasing power. The measure is obtained by adjusting nominal GDP (GDP measured in current prices) by an appropriate price index, usually the implicit price deflator. Often used as a measure of economic activity.

Per Capita Gross Domestic Product (GDP) The total market value of all final goods and services produced in an economy in a given year divided by the population.

Standard of Living: The level of subsistence of a nation, social class or individual with reference to the adequacy of necessities and comforts of daily life. According to Gregory Mankiw, “A Country's Standard of Living Depends on Its Ability to Produce Goods and Services. Countries whose workers produce a large quantity of goods and services per unit of time enjoy a high standard of living. Similarly, as a nation's productivity grows, so does its average income.” (Source: N. Gregory Mankiw Principles of Economics 2e.) Factors that affect a nation’s standard of living include literacy rates, infant mortality rates, infrastructure, availability of technology, for example.

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Mohammed Yunus: Economist who won the Nobel Peace Prize in 2006 for his development of the micro loan program in Bangladesh.

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Visual #2

Rule of 70

The rule presents the calculation that you can “Find the number of years it will take for some measure to double, given its annual percentage increase, by dividing that percentage increase into the number 70.”

$$\begin{array}{r} \text{Approximate number of years} \\ \text{required to double real GDP} \end{array} \quad \frac{70}{\text{annual percentage rate of growth}}$$

Let's Do The Math:

Example 1: If an economy's GDP grows at 1%, you would calculate as follows: $70/1$, reduced, means that this economy would take 70 years to double its GDP. Result: Slow growth, lower standard of living.

Example 2: If an economy's GDP grows at 7%, you would calculate as follows: $70/7$, reduced, means that this economy would take 10 years to double its GDP. Result: Greater growth, improved standard of living.

Example 3: If an economy's GDP grows at 10%, you would calculate as follows: $70/10$, reduced, means that this economy would take 7 years to double its GDP. Result: Greatest growth, even better standard of living.

Source: From McConnell and Brue, Economics, 16th Edition. Special note: Many banking and finance textbooks use the Rule of 72 instead of the Rule of 70. Mathematicians have calculated that the more exact number is actually 69.3.

Handout #2

What in the World is GDP? (Student Assessment)

Directions: Access the CIA World Factbook at <https://www.cia.gov/library/publications/the-world-factbook/>. In the upper right hand corner of the site, locate “select a country or location” in the pull down list. Complete the chart and questions that follow.

| Country | Real GDP Growth Rate | Per Capita GDP | Literacy Rate | Life Expectancy at Birth | Degree of Risk of Infectious Diseases | Infant Mortality | Population Below Poverty Line | Number of Airports with Paved Runways |
|---|----------------------|----------------|---------------|--------------------------|---------------------------------------|------------------|-------------------------------|---------------------------------------|
| Bangladesh | | | | | | | | |
| Choice of country: _____ | | | | | | | | |
| The state “country” you live in today is _____ | | | | | | | | |

Question 1: Link to the following site: <http://hdr.undp.org/en/statistics/>

What components make up the Human Development Index? What country has the highest HDI? Lowest? Locate your choice of country and see how it compares with other countries.

Question 2: Using the Rule of 70, calculate the number of years it will take each of the following countries to double its GDP, given its GDP growth rate. Show your work!

- a. Bangladesh
- b. Your Choice of Country
- c. The state “country” you live in today

Question 3: What conclusions can you draw regarding the standard of living *each* of the nations is likely to experience in the next decade? Present your findings in a four-sentence paragraph.