



POWELL CENTER FOR
ECONOMIC LITERACY

Lesson Plan

WRITTEN BY

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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 Yunas?
 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 fro 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 Yunas’ 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.

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: 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 made 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.

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 #1 – Strange GDP Map



Source: <http://strangemaps.wordpress.com/2007/06/10/131-us-states-renamed-for-countries-with-similar-gdps/> by Frank Jacob, 2007. Or Google "Frank Jacobs Strange GDP Map".

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.



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GDP Bingo!

Time Required

Two 50-minute 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.](#)

National Standards (Economics)

Standard 15 – [Economic Growth](#)

Standard 18 – [Economic Fluctuations](#)

Economic Concepts

Aggregate Demand – *A schedule (or graph/curve) that shows the value of output (real GDP) that would be demanded at different price levels.*

Components of GDP:

Consumer Spending (C) – *The symbol “C” is used to designate the component of GDP that includes all expenditures by households on durable consumer goods (e.g., automobiles and appliances), nondurable consumer goods (e.g., fruit and bread), and consumer expenditures for services (e.g., from plumbers and physicians). Typically spending by consumers accounts for two-thirds of the GDP.*

Gross Private Domestic Investment (I) -- *The symbol “I” is used to designate the*

component of GDP that includes all final purchases of machinery, equipment, and tools by businesses, all construction (including houses for consumers), and changes in inventories.

Government Spending (G) – *The symbol “G” is used to designate the component of GDP that includes expenditures for goods and services that government consumes in providing public services, and expenditures for social capital such as schools and highways.*

Net Exports (Xn) -- *The symbol “Xn” is used to designate the component of GDP that calculates the net exports (spending on exports minus spending on imports). A negative net export means imports exceeded exports which results in a trade deficit. A positive net export means exports exceeded imports which results in a trade surplus.*

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

Nominal Gross Domestic Product (GDP) – *The total market value, measured in current prices, of all final goods and services produced in a nation during a given period of time, usually one year.(Special Note: The GDP BINGO! Cards reflect nominal GDP.)*

Real GDP – *The inflation-adjusted value of all final goods and services produced in a country in one year.*

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.*

Overview

Students will play “GDP BINGO!” by listening to the teacher “call out” different scenarios of aggregate demand spending and determining which components of GDP bought the nation’s output. Students will place pennies on the bingo card marking their choice on which “spender” made the purchase, namely, C (Consumers), I, (Gross private domestic investment), G (Government), or Xn (Net Exports). By concluding which of the components C, I, G, or Xn purchased the final goods and services produced by a nation in a given year, students will have learned the output (GDP) = expenditure (C + I + G + Xn) approach to calculating GDP. Students will also learn what transactions are not counted in determining GDP and will bingo horizontally when they successfully complete this model for select U.S. and foreign nations’ GDP.

Objectives

- Define GDP and calculate GDP using the output-expenditure approach.
- Categorize spending into the correct component of GDP.
- Explain why some spending transactions are not counted in determining a nation’s GDP.
- Analyze the spending data and recognize that consumer spending makes up approximately two-thirds of GDP in the United States.
- Evaluate the GDP of foreign nations and compare the data with the United States’ GDP.
- Explain why a nation’s GDP is one means of measuring a nation’s standard of living.

Materials and Handouts

- **Visual #1** – Key Terms: GDP, Real GDP, Nominal GDP, and Standard of Living
- **Visual #2** – Key Terms: C, I, G, Xn
- **Visual #3** – What Transactions Are Not Counted and Why?
- **Handout #1** – GDP Bingo! Cards. Cut these five bingo pages in half , for 10 cards

- **Handout #2** – Student Assessment, one per student
- Spending Scenarios: two pages copied for teacher use. Copy on colored paper and cut apart for your bingo pieces. Place in a container of your choice.
- Spending Scenarios GDP Bingo! Key: two pages copied for teacher use.
- Student Assessment Answer Key
- Calculators, one per student
- 20 pennies or other tokens such as beans, per team (assume 2-4 students per team)

Teaching Activity

Before The Game:

1. Explain to students that they will learn about Gross Domestic Product (GDP). One way to calculate GDP is to use the output - expenditures approach which views GDP as the sum of all the expenditures made by its four components, namely, spending by Consumers (C), Gross Private Domestic Investment (I), Government (G), and Net Exports (Xn). Students will also learn how to categorize different expenditures into the different GDP components, including the different expenditures that are not counted in determining a nation's GDP.
2. Explain to students that they will be able to speculate about a relationship between the output of a nation (GDP) and a nation's standard of living.
3. Display **Visual #1** – Key Terms: GDP to the students. Teachers should emphasize the key word “domestic” in the term GDP. Thus, cars produced in South Korea by a firm owned by US citizens are not counted in the US GDP. Discuss terms. *Special note: this issue was presented in a free response question from the 2007 A.P. Macroeconomics exam.*
4. Display **Visual #2** – Key Terms: C, I, G, Xn to the students. Discuss the definitions of the components of GDP.
5. Display **Visual #3** – What Transactions Are Not Counted and Why? (Cover column 3.) Encourage students to speculate on why these transactions are not counted and the teacher can write their responses in the middle column. Then, show the reasons why the transactions are not counted as found in the third column of the visual. Discuss the information on the visual.

6. Explain to students that:
 - With the information provided on the visuals, they will play GDP Bingo!
 - They will be divided into teams and each team will receive a GDP Bingo! Card.
 - They will listen to the teacher randomly call out different expenditures (spending scenarios) and the students will determine the component of GDP each expenditure represents.
 - That their team will win if they achieve “bingo” *horizontally* (only) by completing the equation for the output-expenditure model: (output) $GDP =$ (expenditures) $C + I + G + X_n$.
7. The teacher should have the teacher materials on hand which include the Spending Scenarios (copied on colored paper, cut into Bingo pieces, and placed in a container/bag/hat), the Spending Scenarios Bingo Key, and the Answer Key to the student assessment.
8. Divide the class into teams of 2-4 students. Distribute the following materials to each team:
 - **Handout #1** – GDP Bingo! Card
 - Approximately 20 pennies per team (or other tokens of the teacher’s choice).
9. Distribute **Handout #2** – Student Assessment to each student.
10. Direct students to notice that this assessment is divided into two parts. Direct students to complete questions 1-5 in Part 1: “Before Plays Begins.”
11. Discuss the answers given by the students to questions 1-5 in Part 1: “Before Play Begins,” using the Answer Key as your guide.
12. Tell students that they will listen to the teacher call out different spending scenarios. Students can discuss with their team members what component of GDP the spending scenario represents. Place a penny (or other token) on the bingo space marked for the correct scenario.
13. Caution students to remember what categories of transactions are not counted in determining GDP and that if such a scenario is called, they should place a penny on the bingo space marked “not counted.”
14. Remind students that the winning team is the team that achieves “bingo” horizontally by successfully completing the output-expenditure equation for a nation, $GDP = C+I+G+X_n$.

Playing the Game:

15. Play GDP Bingo! The teacher will randomly pull a scenario from a container/bag/hat and read the scenario. The teacher will place this scenario onto the bingo key. This will be used to verify that the winning team correctly identified the transactions for a legitimate bingo. (Teacher should ensure that students cannot see the bingo key card).
16. Give the student teams a moment to determine the correct response and have them raise their hands if they have the scenario on their card. The teacher will call on a student from the team that raised a hand to verify they have identified the scenario correctly. (e.g., “U.S. families bought radios in 1929” should be C 1929 and not I. “Joe sells stock in Nike” is “not counted.”). Direct the student teams to make corrections if they incorrectly categorized the spending scenario before proceeding to the next spending scenario.
17. Continue to call out the scenarios until a team yells “Bingo.” The teacher will verify if a team has successfully achieved “bingo” by comparing their bingo card with the Spending Scenario Bingo Key. After the verification is complete, the teacher will announce, “We Have a GDP Bingo!” and encourage the class to promptly recognize the winning team with applause.

After the Game:

18. Tell students to complete Part 2 of **Handout #2** – Student Assessment) questions 6-10.
19. Have students review the GDP Bingo! card and their individual Student Assessment and discuss the following questions:
 - A. What/who are the four “spenders” of a nation’s output? (Answer: Consumers, businesses, government and foreign purchases.)
 - B. Provide some examples of transactions that fall under C, I, G, and Xn. (Answers: Groceries such as salt and flour bought by consumers fall under C, new parts for old trucks bought by businesses fall under I, food for the soldiers bought by the government falls under G, and the Canadian government buying canned goods from the United States in 1939 falls under Xn.)
 - C. How do you categorize spending that does not fall into one of the four components of GDP? (Answer: these goods are not counted in the current year).
 - D. Provide some examples of transactions that are not counted in determining GDP. (Answer: intermediate goods such as sugar for a bakery business, secondhand sales such as a used book from an online source, private transfer payments such as a graduation gift, black market sales such as the purchase of Oriental rugs, transfer payments such as veteran’s benefit

check from the government, personal services such as a young man mowing his grandmother's lawn for her, and stock transactions such as the purchase of Nike stock.)

- E. What amount of consumer spending is likely given a nation's GDP of \$100 billion? (Answer: $\frac{2}{3} \times \$100 \text{ billion} = \67 billion .)
- F. Provide an example of a nation with a low GDP and a nation with a high GDP and draw some conclusions about each nation's standard of living. (Answer: The GDP for the United States in 1976 was \$1,825.3 billion as compared with the GDP for the Democratic Peoples Republic of Korea in 1976 was \$5,638 million. This means that persons living in the United States enjoyed a higher level of economic prosperity and that the value of goods and services produced was greater in the United States in 1976 than in the Democratic Peoples Republic of Korea in 1976.)

Review

1. What is the definition of GDP and how is it calculated using the output-expenditure approach? (Answer: GDP is the market value of all final goods and services produced in a country in a calendar year. Teachers should emphasize the key word "domestic." Thus, cars produced in South Korea by a firm owned by US citizens are not counted in the US GDP. *Special note: this issue was addressed in a free response question from the 2007 A.P. Macroeconomics exam.*)
2. GDP can be calculated using the output-expenditure approach, such that GDP is the output and spending by consumers (C) + spending by businesses (I) + spending by government (G) + spending abroad (exports – imports, or net exports) (Xn) are the expenditures.)
3. How are spending transactions categorized in the correct component of GDP? (Answer: C includes spending by households, I includes spending by businesses and all construction including houses, G includes spending by government, and Xn includes spending on exports minus spending on imports.)
4. What spending transactions are not counted in determining a nation's GDP and why explain why are these transactions not counted? (Answer:
 - Intermediate goods such as sugar purchased by a bakery for cakes are not counted because these goods are purchased for resale or further processing or manufacturing. Only the final good (the cake) is counted. The BEA (Bureau of Economic Analysis) seeks to avoid double counting. Interestingly, the sugar bought by households is counted as a final good.)

- Secondhand sales such as selling a used appliance are not counted because the appliance was already counted in a previous year by the BEA (Bureau of Economic Analysis).
 - Private transfer payments such as a graduation gift check are not counted because gifts do not add to production. No production is involved. This is an example of money being transferred from one source to another.
 - Personal services provided by a friend or relative such as mowing your grandmother's lawn are not counted because this is a private transaction. Yes, production is involved, but this private transaction is not reported by the recipient and is therefore not recorded and counted by the BEA (Bureau of Economic Analysis).
 - Stock market transactions such as a sale of Google stock are not counted because these are merely paper transactions and do not add to production. The commission paid by an investor to a broker is counted in (C) as a service. *Special note: this issue was addressed in a free response question from the 2007 A.P. Macroeconomics exam.*
 - Public transfer payments such as Social Security are not counted because these payments are made by the government to individuals without receiving current production in return. Entitlement programs are provided to recipients who qualify based on a category established by Congress, e.g., age, income, service. No production this year is involved.
 - Black market transactions (underground economy) such as purchases of stolen items or illegal imported goods are not counted because these transactions are not reported by businesses and consumers to the BEA (Bureau of Economic Analysis).
5. What component of GDP makes up approximately two-thirds of GDP? (Answer: Consumer spending.)
 6. How does the GDP of foreign nations compare with the United States' GDP? (Answers will vary depending on the foreign nation in the comparison, but the data suggest that, for example, nations with low GDP include Vietnam, Somalia, Israel, Poland, Democratic Peoples Republic of Korea (North Korea) and India. Thriving nations include Republic of Korea (South Korea) and Germany.)

7. What is the relationship between a nation's GDP and a nation's standard of living? (Answer: nations with a higher GDP (output) have more goods and services available for the consumers, businesses, government, and other nations to purchase. One way to measure standard of living is to calculate the GDP of a nation. To further analyze the wealth of a nation, economists will calculate the GDP per person (GDP/per capita). The more goods and services are purchased, the more businesses will expand using the factors of production, land, labor, capital, and entrepreneurship which leads to money returning to the households in the form of rent, interest, wages and interest. This money is used by the households to purchase more goods. The economy continues to flow in a circular motion, expanding, and creating a higher standard of living for all persons. The purchase of the output by the government and by foreign buyers contributes to this flow as well and in turn, contributes to a nation's standard of living.)

Visual #1 – Key Terms: GDP, Real and Nominal GDP, and Standard of Living

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

Nominal Gross Domestic Product: The total market value, measured in current prices, of all final goods and services produced in a nation during a given period of time, usually one year. (*Note: The GDP BINGO! reflects nominal GDP.*)

Real Gross Domestic Product: 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.

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.

Visual #2 – Key Terms: C, I, G, Xn

- **“C”** represents the component of GDP that includes all expenditures by households on durable consumer goods (automobiles and appliances), nondurable consumer goods (fruit and bread), and consumer expenditures for services (from plumbers and physicians). Typically spending by consumers accounts for two-thirds of the GDP.
- **“I”** represents the component of GDP that includes all final purchases of machinery, equipment, and tools by businesses, all construction (including houses for consumers), and changes in inventories.
- **“G”** represents the component of GDP that includes expenditures for goods and services that government consumes in providing public services, and expenditures for social capital such as schools and highways.
- **Xn** represents the component of GDP that calculates the net exports (spending on exports minus spending on import). A negative answer for net exports means imports exceeded exports which results in a trade deficit. A positive answer for net exports means exports exceeded imports which results in a trade surplus.

Visual # 3 – What Transactions Are Not Counted and Why?

Transactions Not Counted/Examples of These Transactions	Why Do You Think These Transactions Would Not Be Counted?	Reasons Why These Transactions Are Not Counted
Intermediate goods such as sugar bought by a bakery for cakes		Only the final good (the cake) is counted. The BEA tries to avoid double counting. Interestingly, the sugar bought by households is counted as a final good.
Secondhand sales such as selling a used appliance like a refrigerator		This refrigerator was counted years ago by the BEA. A product cannot be produced in multiple years.
Private transfer payments such as a graduation check or birthday present		No production is involved. This is just money from one source to another.
Personal services provided by a friend or relative such as mowing your grandmother's lawn		Production is involved but this is a private transaction that is not reported by the recipient. It is not recorded and counted by the BEA.
Stock market transactions such as a sale of Google stock		The stock ownership is a paper transaction. No production is involved.
Public transfer payments such as Social Security and Veteran's Benefits		Entitlement programs are provided to recipients who qualify based on a category established by Congress, e.g. age, income, service. No production is involved.
Black market transactions (underground economy) such as purchases of stolen items and illegally imported goods		The BEA does not receive data from this source and cannot count these transactions toward GDP.

Handout #1 -- GDP Bingo! Card 1

	C	I	G	Xn	Not Counted	*GDP
USA 1929	77.4	16.5	9.4	.4	The value of a used textbook sold through an online auction this year	103.6
USA 1945	120.0	10.8	93.0	-.8	Jake and Charlie buy shares in Sears	223.1
USA 1976	1151.9	292.0	383.0	-1.6	Garrett mows his grandmother's lawn	1825.3
**Germany 1976	287334	117042	103305	-11640	Cheryl buys an old truck from the used car lot for her gardening projects	491172

*In current (nominal) dollars, billions www.bea.gov Bureau of Economic Analysis NIPA Table 1

**United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Activity 1: GDP Bingo! Card 2

	C	I	G	Xn	Not Counted	*GDP
USA 1939	67.2	9.1	14.8	.8	The value of a used textbook sold through an online auction this year	92.2
USA 1945	120.0	10.8	93.0	-.8	Garrett mows his grandmother's lawn	223.1
USA 1991	3986.1	803.3	1234.4	-27.5	Jake and Charlie buy shares in Sears	5995.9
**Vietnam 1991	6367	1146	504	-391	Social Security Payments are mailed to recipients	7642

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

**United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 -- GDP Bingo! Card 3

	C	I	G	Xn	Not Counted	*GDP
USA 1939	67.2	9.1	14.8	.8	Cheryl buys an old truck from the used car lot for her gardening projects	92.2
USA 1946	144.3	31.1	7.2	39.6	Social Security Payments are mailed to recipients	222.3
USA 1984	2503.3	735.6	797.0	-102.7.	The value of cars produced in the current year entirely in S. Korea by a firm owned by US citizens.	3933.2
**USSR (Former) 1984	635820	130904	28051	None reported	U.S. bakeries bought salt and flour for baking.	935029

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Activity 1: GDP Bingo! Card 4

	C	I	G	Xn	Not Counted	*GDP
USA 1929	77.4	16.5	9.4	.4	Cheryl buys an old truck from the used car lot for her gardening projects	103.6
USA 1984	2503.3	735.6	797.0	-102.7.	U.S. bakeries bought salt and flour for baking.	3933.2
USA 2002	7385.3	1589.2	1932.5	5.4	Jake and Charlie bought shares in Sears	10480.8
**Cuba 2002	12032	3256	10088	4325	A car made in the current year entirely in South Korea by a firm owned by US citizens.	31216

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1.

**United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 -- GDP Bingo! Card 5

	C	I	G	Xn	Not Counted	*GDP
USA 1929	77.4	16.5	9.4	.4	Joe sells his stock in Nike	103.6
USA 1950	192.2	54.1	46.8	.7	Cheryl buys an old truck from the used car lot for her gardening projects	293.8
USA 2002	7385.3	1589.2	1932.5	5.4	Social Security Payments are mailed to recipients	10480.8
**Somalia 2002	882	250	105	-17	U.S. bakeries bought salt and flour for baking.	1219

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 – GDP Bingo! Card 6

	C	I	G	Xn	Not Counted	*GDP
USA 1939	67.2	9.1	14.8	.8	A war veteran named G.I. Joe receives a disability check from the military	92.2
USA 1950	192.2	54.1	46.8	.7	A used textbook sold through an online auction this year	293.8
USA 1984	2503.3	735.6	797.0	-102.7.	Two businesses buy Oriental rugs on the black market	3933.2
**India 1984	163715	45656	23259	-3255	Joe sells his stock in Nike	215773

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 -- GDP Bingo! Card 7

	C	I	G	Xn	Not Counted	*GDP
USA 1946	144.3	31.1	7.2	39.6	Jake and Charlie buy stock in Sears	222.3
USA 1950	192.2	54.1	46.8	.7	A war veteran named G.I. Joe receives a disability check from the military	293.8
USA 1976	1151.9	292.0	383.0	-1.6	Garrett mows his grandmother's lawn	1825.3
**Democratic Peoples Republic of Korea 1976 (North Korea)	3178	1900	506	54	Two businesses buy Oriental rugs on the black market	5638

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 – GDP Bingo! Card 8

	C	I	G	Xn	Not Counted	*GDP
USA 1946	144.3	31.1	7.2	39.6	A used textbook sold through an online auction this year	222.3
USA 1968	558.0	132.1	209.4	1.4	Two businesses buy Oriental rugs on the black market	910.0
USA 1991	3986.1	803.3	1234.4	-27.5	A war veteran named G.I. Joe receives a disability check from the military	5995.9
**Israel 1991	34618	16526	18071	-4792	Garrett mows his grandmother's lawn	65153

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 -- GDP Bingo! Card 9

	C	I	G	Xn	Not Counted	*GDP
USA 1968	558.0	132.1	209.4	1.4	Joe sells his stock in Nike	910.0
USA 1991	3986.1	803.3	1234.4	-27.5	A car produced in the current year entirely in South Korea by a firm owned by US citizens.	5995.9
USA 2002	7385.3	1589.2	1932.5	5.4	A war veteran named G.I. Joe receives a disability check from the military	10480.8
**Republic of Korea (South Korea) 2002	281679	124151	50331	6856	Two businesses buy Oriental rugs on the black market	476690

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Handout #1 – GDP Bingo! Card 10

	C	I	G	Xn	Not Counted	*GDP
USA 1945	120.0	10.8	93.0	-.8	Joe sells his stock in Nike	223.1
USA 1968	558.0	132.1	209.4	1.4	U.S. bakeries bought salt and flour for baking.	910.0
USA 1976	1151.9	292.0	383.0	-1.6	A car made in the current year entirely in South Korea by a firm owned by US citizens.	1825.3
**Poland 1976	27201	21279	8904	-5059	Social Security Payments are mailed to recipients	54432

*In current (nominal) dollars (billions) www.bea.gov Bureau of Economic Analysis NIPA Table 1

** United Nations estimates of GDP at current prices in U.S. Dollars (millions)

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Spending Scenarios (for Teacher Use): Page 1 of 2



U.S. Families bought inferior goods such as rice and beans in 1929.	Bookstores bought extra copies of William Faulkner's <i>The Sound and the Fury</i> in 1929	The Feds spend money creating a task force to capture Al Capone in 1929.	U.S. businesses sold spare parts to countries in South America in 1929	GDP for the US in 1929 was \$103.6 billion dollars	Joe sells his stock in Nike
U.S. consumers bought salt and flour for baking bread in 1939	U.S. movie theaters bought the rights to show <i>Gone With the Wind</i> in 1939	U.S. government buys blankets for the military in 1939.	The Canadian government bought canned goods from the United States in 1939.	GDP for the US in 1939 was \$92.2 billion dollars	U.S. bakeries bought salt and flour for baking.
Before enlisting in the U.S. army, men got "buzzcuts" at the local barber shop in 1945	Aircraft companies bought extra riveters for the new female workers to use in 1945	U.S. military bought planes and ships during World War II in 1945.	U.S. Government sold military hardware to the United Kingdom in 1945.	GDP for the US in 1945 was \$223.1 billion dollars	A car produced in the current year entirely in South Korea by a firm owned by US citizens. (<i>Special note: This is from the 2007 A.P. Macro Exam</i>)
Rent paid in 1946 by residents in an apartment building built in the previous year. (<i>Special note: This is from the 2007 Macro Exam</i>)	Proctor and Gamble expands its plants to develop Tide detergent for the first time in 1946	US government is paying tuition for soldiers using the GI Bill in 1946	U.S. businesses sold steel to France in 1946.	GDP for the US in 1946 was \$222.3 billion	U. S. Social Security Payments are mailed to recipients.
In the U. S. three pupils got new eyeglasses to wear in school in 1950	U.S. businesses bought 30-second advertising spots during the Super Bowl in 1950	U.S. government bought construction materials for new highways in 1950	American farmers sold grain to Mexico in 1950	GDP for the U.S. was \$293.8 billion in 1950. an increase of 8.7% from the previous year in adjusted dollars	A U. S. war veteran named G.I. Joe receives a disability check from the military

Spending Scenarios (for Teacher Use): Page 2 of 2



Girls in the U. S. are buying go-go boots in all the stores in 1968	A new vinyl boot factory was built in the U. S. 1968	U.S. government buys camouflaged gear for the soldiers fighting in Vietnam in 1968.	The Europeans bought Motown records from shops in Detroit in 1968	GDP for the U.S. in 1968 was \$910 billion in 1968	Two businesses buy Oriental rugs on the black market
Consumers in the U.S. bought flags for their homes to celebrate the Bicentennial in 1976	Fashion designers create 100% polyester bell bottom pants for men and women in 1976	NASA spends money on new space technology in 1976	Italians bought cigarettes from Virginia tobacco farmers in 1976	GDP for the U.S. was \$1825.3 billion in 1976	A used textbook sold through an online auction this year (<i>Special note: This is from the 2007 A.P. Macro Exam</i>)
U. S. Consumers spent their tax cut on new appliances and cars in 1984.	Mitch sells his U. S. government bonds to fund the construction of a new Sports Grill in 1984.	The State of Alabama buys farmland for a new highway from the Farmer family in 1984.	German companies bought computers from U.S. companies in 1984.	In 1984 GDP for the U.S. skyrocketed by 7.2% in adjusted dollars from the previous year to \$3933.2 billion.	Jake and Charlie buy shares of Sears
Families paid commissions to their stock broker in 1991. (<i>Special note: This is from the 2007 A.P. Macro Exam</i>)	Patrick's Pawn Shop in the U. S. expanded during the recessionary times of 1991.	The U.S. Defense Department placed an order for Stealth jets in 1991.	Russians bought spare parts from US companies for their tractors in 1991	In 1991, GDP for the U.S. declined by .2% in adjusted dollars from the previous year to \$5995.9 billion.	Garrett mows his grandmother's lawn for her
U.S. Consumers bought 40,000 new Mercedes Sport Utility Vehicles made in Tuscaloosa, Alabama in 2002	U. S. Computer manufacturers upgrade their computer equipment with new security measures in post 9-11 times in 2002	The Department of Homeland Security buys new airport security equipment in 2002.	Japan automakers buy electronic processors from firms in Texas in 2002	In 2002, GDP for the U.S. was \$10480.8 billion	Cheryl buys an old truck from the used car lot for her gardening projects

Spending Scenarios Bingo Key (for Teacher Use): Page 1 of 2

U.S. Families bought inferior goods such as rice and beans in 1929. (Answer: C in 1929)	Bookstores bought extra copies of William Faulkner's <i>The Sound and the Fury</i> in 1929 (Answer: I in 1929)	The Feds spend money creating a task force to capture Al Capone in 1929. (Answer: G in 1929)	U.S. businesses sold spare parts to countries in South America in 1929. (Answer: This U.S. export is a component of Xn)	GDP for the US in 1929 was \$103.6 billion dollar	Joe sells his stock in Nike (Answer: Stock Transactions are Not Counted)
U.S. consumers bought salt and flour for baking bread in 1939 (Answer: C in 1939)	U.S. movie theaters bought the rights to show <i>Gone With the Wind</i> in 1939 (Answer: I in 1939)	U.S. government buys blankets for the military in 1939. (Answer: G in 1939)	The Canadian government bought canned goods from the United States in 1939. (Answer: This U.S. export is a component of Xn)	GDP for the US in 1939 was \$92.2 billion dollars	U.S. bakeries bought salt and flour for baking. (Answer: Intermediate Goods are Not Counted)
Before enlisting in the U.S. army, men got "buzzcuts" at the local barber shop in 1945 (Answer: C in 1945)	Aircraft companies bought extra riveters for the new female workers to use in 1945 (Answer: I in 1945)	U.S. military bought planes and ships during World War II in 1945. (Answer: G in 1945)	U.S. Government sold military hardware to the United Kingdom in 1945. (Answer: This U.S. export is a component of Xn)	GDP for the US in 1945 was \$223.1 billion dollars	A car produced in the current year entirely in South Korea by a firm owned by US citizens. (Answer: GDP counts domestic production only) <i>Note: This is from the 2007 A.P. Macro Exam.</i>
Rent paid in 1946 by residents in an apartment building built in the previous year. (Answer: C in 1946) <i>(Special note: This is from the 2007 Macro Exam)</i>	Proctor and Gamble expands its plants to develop Tide detergent for the first time in 1946 (Answer: I in 1946)	US government is paying tuition for soldiers using the GI Bill in 1946 (Answer: G in 1946)	U.S. businesses sold steel to France in 1946. (Answer: This U.S. export is a component of Xn)	GDP for the US in 1946 was \$222.3	U. S. Social Security Payments are mailed to recipients. (Answer: Transfer payments are not counted)
In the U. S. three pupils got new eyeglasses to wear in school in 1950 (Answer: C in 1950)	U.S. businesses bought 30-second advertising spots during the Super Bowl in 1950 (Answer: I in 1950)	U.S. government bought new tires for the military vehicles in 1950 (Answer: G in 1950)	American farmers sold grain to Mexico in 1950 (Answer: This U.S. export is a component of Xn)	GDP for the U.S. was \$293.8 billion in 1950, an increase of 8.7% from the previous year in adjusted dollars	A U. S. war veteran named G.I. Joe receives a disability check from the military (Answer: Transfer payments are not counted)

Spending Scenarios Bingo Key (for Teacher Use): Page 2 of 2

Girls in the U.S. are buying go-go boots in all the stores in 1968 (Answer: C in 1968)	A new vinyl boot factory was built in the U. S. 1968 (Answer: I in 1968)	U.S. government buys camouflaged gear for the soldiers fighting in Vietnam in 1968. (Answer: G in 1968)	The Europeans bought Motown records from shops in Detroit in 1968 (Answer: This U.S. export is a component of Xn)	GDP for the U.S. in 1968 was \$910 billion in 1968	Two businesses buy Oriental rugs on the black market (Answer: Black market transactions are not counted).
Consumers in the U.S. bought flags for their homes to celebrate the Bicentennial in 1976 (Answer: C in 1976)	Fashion designers create 100% polyester bell bottom pants for men and women in 1976 (Answer: I in 1976)	NASA spends money on new space technology in 1976 (Answer: G in 1976)	Italians bought cigarettes from Virginia tobacco farmers in 1976 (Answer: This U.S. export is a component of Xn)	GDP for the U.S. was \$1825.3 in 1976	A used textbook sold through an online auction this year (Answer: secondhand sales are not counted). (<i>Special note: This is from the 2007 Macro Exam</i>)
U. S. Consumers spent their tax cut on new appliances and cars in 1984. (Answer: C in 1984)	Mitch sells his U. S. government bonds to fund the construction of a new Sports Grill in 1984. (Answer: I in 1984)	The State of Alabama buys farmland for a new highway from the Farmer family in 1984. (Answer: G in 1984)	German companies bought computers from U.S. companies in 1984. (Answer: This U.S. export is a component of Xn)	In 1984 GDP for the U.S. skyrocketed by 7.2% in adjusted dollars from the previous year to \$3933.2 billion.	Jake and Charlie buy shares of Sears (Answer: stock transactions are not counted)
Families paid commissions to their stock broker in 1991. (Answer: C in 1991) <i>Note: This is from the 2007 A.P. Macro Exam</i>	Patrick's Pawn Shop in the U. S. expanded during the recessionary times of 1991. (Answer: I in 1991)	The U.S. Defense Department placed an order for Stealth jets in 1991. (Answer: G in 1991)	Russians bought spare parts from US companies for their tractors in 1991 (Answer: This U.S. export is a component of Xn)	In 1991, GDP for the U.S. declined by .2% in adjusted dollars from the previous year to \$5995.9 billion.	Garrett mows his grandmother's lawn (Answer: personal services are not counted).
U.S. Consumers bought 40,000 new Mercedes Sport Utility Vehicles made in Tuscaloosa, Alabama in 2002 (Answer: C in 2002)	U. S. Computer manufacturers upgrade their computer equipment with new security measures in post 9-11 times in 2002 (Answer: I in 2002)	The Department of Homeland Security buys new airport security equipment in 2002. (Answer: G in 2002)	Japan automakers buy electronic processors from firms in Texas in 2002 (Answer: This U.S. export is a component of Xn)	In 2002, GDP for the U.S. was \$10480.8	Cheryl buys an old truck from the used car lot for her gardening projects (Answer: secondhand sales are not counted).

Handout #2 – Student Assessment

Part 1. Recognize and identify data on your GDP Bingo! Card.

Directions: *Before play begins, complete the following questions in Part 1.*

1. What source was used to provide the numbers (data) on United States' GDP?
2. What source was used to provide the numbers (data) on foreign nation's GDP?
3. What foreign nation is on your GDP Bingo Card?
4. Select a country and a year and use your calculator to “double-check” the total real GDP in the first row. Remember, $GDP = C + I + G + X_n$. Show your work. (*Note: slight variances in the GDP numbers are due to rounding. Numbers from the United Nations are estimates.*)
5. Identify the country (or countries) and the year when the Net Exports (X_n) was negative, that is, the time when the country experienced a “trade deficit.” “Double-check” the calculation for GDP, being careful to subtract the X_n rather than add X_n . Show your work. (*Note: slight variances in the GDP numbers are due to rounding. Numbers from the United Nations are estimates.*)

Part 2. Interpret and analyze data for your GDP Bingo! Card.

Directions: *After a team has been declared a winner of “GDP Bingo,” complete the following questions.*

6. Listen to a member of the winning team call out the data from their horizontal bingo. Write down the winning output-expenditure numbers below. Listen to the teacher (using the Bingo Key) call out the spending scenarios for this winning year. Write down the spending scenarios under the correct components of GDP.
7. Provide the reason that would explain why each of the “Not Counted” spaces on your bingo card was categorized as “Not Counted.”
8. Select one of the United States years and test the hypothesis that consumption expenditures typically account for $\frac{2}{3}$ (two-thirds) of all GDP in the United States by using this formula: $\frac{2}{3}$ or $(.66) \times \text{total GDP} = \text{Consumption}$. Test this hypothesis on the foreign nation listed on your bingo card.
9. For the foreign nation on your bingo card, evaluate the GDP by writing a short paragraph comparing and contrasting the foreign nation spending and GDP with the *same* year of spending and GDP for the United States. Use the back of the page if necessary. (*For example, compare and contrast Germany in 1976 and the United States in 1976 in terms of what components of GDP bought the nation's output.*)
10. For the foreign nation on your bingo card, *speculate* on the standard of living persons in the nation are likely to enjoy. Compare the GDP in your foreign nation with that of the United States in that same year. Using economic data on your Bingo card as your source, what country and year would you most like to live in and why? What country / year would you least like to live in? Why?

Student Assessment Answer Key (for Teacher Use)

Part 1. Recognize and identify data on your GDP Bingo! Card.

Directions: *Before play begins*, complete the following questions in part 1.

1. What source was used to provide the numbers (data) on United States' GDP?
Answer: the BEA (Bureau of Economic Analysis)
2. What source was used to provide the numbers (data) on foreign nation's GDP?
Answer: the United Nations
3. What foreign nation is on your GDP Bingo Card?
Answers will vary. If all ten GDP Team Bingo! Cards are used, data for ten countries is presented including Germany, Vietnam, USSR (former), Cuba, Somalia, India, Democratic Peoples Republic of Korea, Israel, Republic of Korea, and Poland.
4. Select a country and a year and use your calculator to "double-check" the total real GDP in the first row. Remember, $GDP = C + I + G + X_n$. Show your work. (*Note: slight variances in the GDP numbers are due to rounding. Numbers for the foreign nations are estimates made by the United Nations.*)(Objective 1)
Answers will vary. Students should show their work in this fashion:
USA 1946: $C--144.3 + I--31.1 + G--7.2 + X_n--39.6 = GDP--222.2$ (GDP Bingo! Shows 222.3).
5. Identify the country (or countries) and the year when the Net Exports (X_n) was negative, that is, the time when the country experienced a "trade deficit." "Double-check" the calculation for GDP, being careful to subtract the X_n rather than add X_n . Show your work. (*Note: slight variances in the GDP numbers are due to rounding. Numbers from the United Nations are estimates.*) (Objective 2)
Answers will vary. Students should show their work in this fashion: USA 1945: $C--120.0 + I--10.8 + G--93.0 + X_n--(-.8) = GDP 223$ (GDP Bingo! Shows 223.1)

Part 2. Interpret and analyze data for your GDP Bingo! Card.

Directions: After a team has yelled "GDP Bingo!" complete the following questions.

6. Listen to a member of the winning team call out the data from their horizontal bingo. Write down the winning output-expenditure numbers below. Listen to the teacher (using the Bingo Key) call out the spending scenarios for this winning year. Write down the spending scenarios under the correct components of GDP. (Objective 2)
Answers: If the U.S. year 2002 won, the correct data and components would be GDP (\$10,480.8 billion) = C (\$7,385.3 billion, Mercedes made in Tuscaloosa, Alabama purchased by consumers) + I (\$1,589.2 billion, computer manufacturers upgrade their security equipment) + G (\$1,932.2 billion, Department of Homeland Security buys airport equipment) + X_n (\$5.4 billion, Russians bought spare parts from US companies for their tractors in 1991)
7. Provide the reason that would explain why each of the "Not Counted" spaces on your bingo card was categorized as "Not Counted." (Objective 3)
Answers: Joe's purchase of Nike stock and Jake's and Charlie's purchase of Sears stock are not counted because stock transactions are not counted. U.S. bakeries purchase of salt and flour for baking is not counted because it is an intermediate good. Consumers depending on neighbors to help with chores and Garrett mowing his grandmother's lawn are not counted because these are personal services. Social Security and Veteran's benefit checks are not counted because these are transfer payments. The purchase of an old truck and a used

textbook purchased online are not counted because these are secondhand sales. The purchase of Oriental rugs is not counted because black market transactions are not counted.)

8. Select one of the United States years and test the hypothesis that consumption expenditures typically account for 2/3 (two-thirds) of all GDP in the United States by using this formula: $2/3$ or $(.66) \times \text{total GDP} = \text{Consumption}$. Test this hypothesis on the foreign nation listed on your bingo card. (Objective 4)
Answer: USA 2002: $2/3 (.66) \times \$10,480.8 \text{ billion} = \$6,987.19 \text{ billion}$ is two-thirds of the GDP and the actual Consumption Spending in 2002 was \$7385.30 billion. The conclusion, for 2002, is that although consumption spending was less than the typical year, it was certainly close to the “two-thirds rule.” For Somalia that same year of 2002: $2/3 (.66) \times \$1,219 \text{ million} = \845.4 million and the actual consumption spending in 2002 for Somalia was \$882 million. The conclusion is that consumption spending was near the “two-thirds rule” typically experienced in the United States.
9. For the foreign nation on your bingo card, evaluate the GDP by writing a short paragraph comparing and contrasting the foreign nation spending and GDP with the *same* year of spending and GDP for the United States. Use the back of the page if necessary. *For example, compare and contrast Germany in 1976 and the United States in 1976 in terms of what components of GDP bought the nation’s output*. (Objective 5)
Answers will vary. To find the years, students should look on the last two GDP Bingo! lines where they will find the US data and a foreign nation data for the same year. For the Germany and U.S. data in 1976: Both Germany and the U.S. in 1976 ran a trade deficit (Imports exceeded exports by \$1.6 billion for the U.S. and imports exceeded exports by \$11,640 million for Germany. Consumers in Germany needed to have spent an additional \$37 million of GDP output to have followed the “two-thirds rule” and the United States needed to have spent an additional \$50 billion to have followed the rule. In contrast, (I) investment spending in Germany exceeded (G) government spending and in the U.S. it was the opposite for 1976.
10. For the foreign nation on your bingo card, *speculate* on the standard of living persons in the nation are likely to enjoy. Compare the GDP in your foreign nation with that of the United States in that same year. Using economic data on your Bingo card as your source, what country and year would you most like to live in and why? Least like to live in? Why? (Objective 6)
Answers will vary but certainly a student would most likely choose a country with a high GDP such as the United States to live in and not choose a country such as Somalia with its low GDP. Hint: The GDP of the United States is in billions and the other nations’ GDP is in millions.