

The Business Cycle and Important Economic Measures

Overview

In this lesson, students will become familiar with the three big economic indicators and the business cycle. Students will begin by completing an activity on the three important economic measures: GDP, unemployment, and inflation. Students will then research economic data released by government agencies and historical data of past US business cycles. Students will conclude the lesson by researching current events in the United States economy and factors that influence the decisions of business, consumers, and the governments.

Grade

10

NC Essential Standards for Civics & Economics

- CE.E.3.1 – Summarize basic macroeconomic indicators and how they vary over the course of a business cycle.

Materials

- “The Story of Inflation” comic book
 - Comic books are available online at the following site:
 - <http://archive.org/details/gov.frb.ny.comic.inflation>.
- Understanding Economic Measures and Answer Key, attached
- “Hunger in America” video clip available at: <http://www.pbs.org/moyers/journal/04112008/watch.html> or searching “Archive” section of <http://www.pbs.org/moyers/journal/index-flash.html>.
- LCD projector connected to computer with internet access
- Business Cycle Visual, attached
- Computers with internet access
- Researching Economic Measures and Business Cycles and Answer Key, attached
- Practice EOC Multiple Choice Questions and Answer Key, attached.

Duration

1-2 block periods

Procedure

1. As a warm-up, have students define **cycle**. Ask the students the following questions to encourage discussion:
 - What are some events that occur in cycles?
 - Example could include: weather, calendar, astronomy, climate change, agriculture, seasons, cells and other biology stuff, war/social upheaval and peace, etc.
 - What do all of these events have in common?
2. Inform students that the economy of a nation also moves in a cycle. Sometimes the economy grows and other times the economy shrinks. Three important economic measures relate to these alternating periods of growth and decline. The first is GDP:
 - **Gross Domestic Product:** measure of the size of the economy. It is the total value, in dollars, of all *final* goods and services produced in the country during a single year. Final goods are goods sold to their users.

- GDP is expressed in terms of money. This enables us to compare the relative worth of goods and services, which is more meaningful than simply numbers of products
 - **Current (nominal) GDP** - Measured in inflation-distorted dollars
 - **Real GDP** - Converts nation's annual output into constant dollars by taking out inflationary increases in prices.
 - When prices increase, GDP would go up even if the economy was not growing.
 - To avoid this false impression, economist use real GDP.
3. The second important economic measure is the unemployment rate:
- **Unemployment Rate**- The percentage of people in the civilian labor force who are not working but are looking for jobs. The *civilian labor force* includes all civilians 16 years or older who are either working or looking for work.
 - 4 Types of unemployment
 - 1. **frictional**: involves people who are temporarily between jobs
 - 2. **structural**: caused by a mismatch between job seekers and job openings (Examples: decline in manufacturing jobs; increase in service jobs) technological: form of structural unemployment caused by extensive use of technology in many industries
 - 3. **seasonal**: temporary unemployment due to conditions that prevail during certain seasons of the year (Example: construction in winter)
 - 4. **cyclical**: unemployment caused by lack of overall demand in the economy (Example: due to the recession)
4. The third important economic measure is inflation:
- **Inflation**: is an increase in the general price level.
 - Measuring Inflation: **Consumer Price Index**- To track inflation, the government samples prices every month for about 400 products commonly used by consumers. The rate of inflation is the change in the average level of prices as measured by the CPI
 - Note to teacher: Inflation will be thoroughly discussed in the comic book during the next exercise.
5. Pass out copies of “Understanding Economic Measures” and have students work individually using their textbook and “The Story of Inflation” comic book. Students may also need a calculator for GDP and unemployment rate questions. Review answers with students when complete.
6. Using an LCD projector, show the 10 minute clip “Hunger in America” available at <http://www.pbs.org/moyers/journal/04112008/watch.html>. After the clip, have students discuss the following questions:
- What has happened to the price of food products over the past few months?
 - What other events have put additional strain on families in America?
 - How are the higher prices and greater demand for food affecting food banks?
 - Are the people visiting food banks just too lazy to work and buy their own food?
 - What groups of US citizens are most hurt by higher food prices?
 - From the video, what are the effects of higher unemployment and higher prices on American families?
 - What role should the government play? How much assistance should they provide unemployed, disabled, or the elderly?
 - Which economic system encourages greater economic intervention by the government? Which economic system believes that markets should be allowed to set prices without government intervention?
7. Inform the students that the three economic measures they learned about can be used to highlight changes in the business cycle. The **business cycle** (or economic cycle) refers to the short-term fluctuations of

economic activity along its long term growth trend. Project the attached business cycle visual before discussing phases of the business cycle. There are four phases to the business cycle:

- 1. **Expansion**- Real GDP (production) growing and unemployment rate usually falls.
- 2. **Peaks**- Highest point of expansion. Economists can only measure once contraction begins.
- 3. **Recession**- Real GDP (production) decreases for 6 consecutive months; unemployment rate usually increases. An extended recession is called a depression.
- 4. **Troughs**- Lowest point of the recession. Economists can only measure once expansion begins.

8. Pass out copies of “Researching Economic Measures and the Business Cycle”. Students will need computers with internet access to complete the assignment. Review answers with students when complete.

9. As a culminating activity, students will find newspaper articles related to the economic measures and business cycle. Instruct students to complete typed reflection for each article they find (assignment sheet and rubric attached). Have students share current events as a class or in small groups after research and reflection. Students should use links below for research:

- www.newyorktimes.com
- <http://www.msnbc.msn.com/id/3032542/site/newsweek/>
- <http://www.washingtonpost.com/>
- <http://www.economist.com/>
- <http://www.usatoday.com/>
- <http://www.newsobserver.com/>
- <http://www.wral.com/>

Differentiation

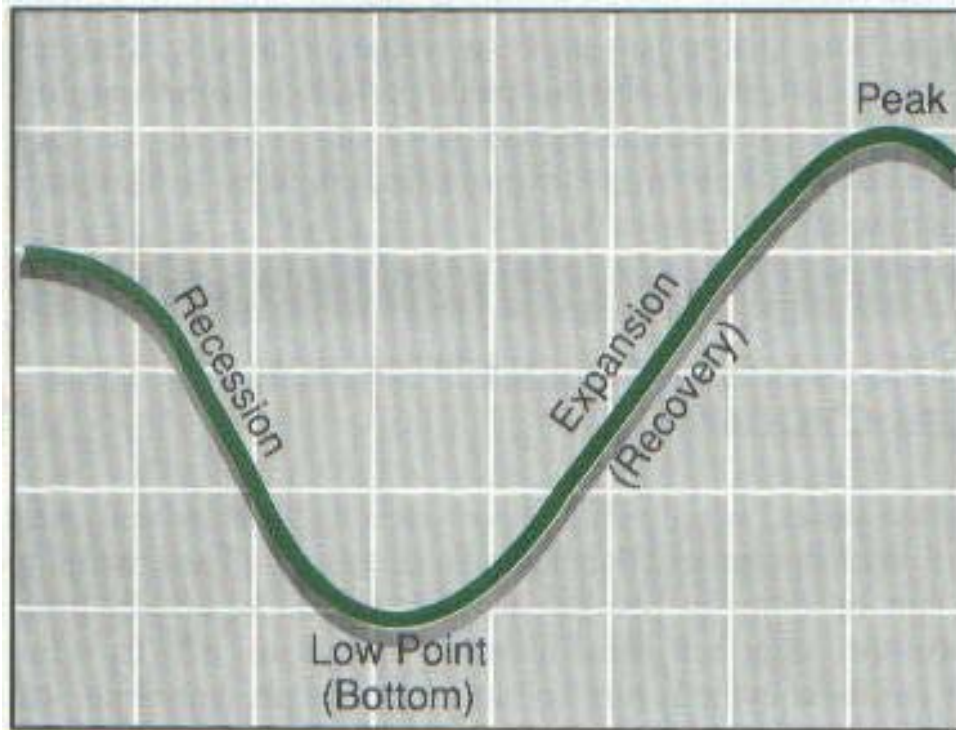
Students with special needs

- Allow students to work with partner for online research.
- Reduce the number of newspaper articles students are required to research.

AIG

- Have students track economic measures over a period of time and create a portfolio of government data, newspaper articles, and student written reflections.

Business Cycle Visual



Phases of the Business Cycle

Name: _____

Understanding Economic Measures

Part I: GDP

Using your textbook and the concepts covered in class, answer the following questions.

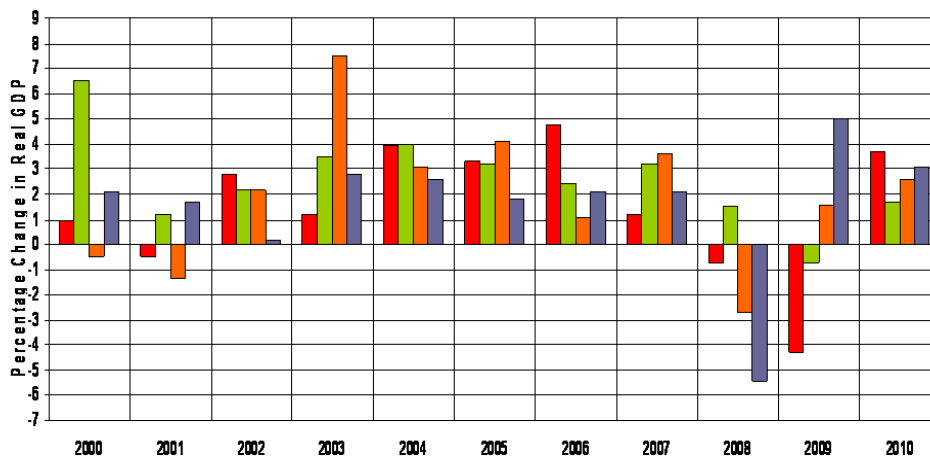
1. What does GDP measure?
2. What do economists count when computing GDP?
3. Why is GDP an important measure of our standard of living?
4. What does GDP not measure?
5. The economy of Shag Island produces only three goods: King Shag egg's, shag carpeting, and DVDs of the 1989 hilarious major motion picture *Shag* starring Bridget Fonda playing a teenybopper on a mad cap romp around Myrtle beach. Below is a chart showing the number and price of each good produced on Shag Island.

Good	Number Produced (2008)	Price(2008)	Number * Price
King Shag eggs	400	\$15 (they are a delicacy I have been told)	
Shag carpet	250	\$25	
DVD of <i>Shag</i>	8	\$2	

- a. What is the GDP of Shag Island (Hint: Multiply the number of each good produced by its price, put that value in the third column, and then add the values together)?
- b. Due to a new found popularity in the culture of the 70s and 80s during 2009, the production of shag carpet and DVDs **grows by 200 each** and the price **rises by \$10 a roll** for the carpeting and **25¢ for the DVDs**, what will be the new GDP for Shag Island?

Analyze the graph and answer the following questions.

Figure 6: Quarterly Changes in U.S. Real GDP (2000-2010)



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6. What is measured on the X-axis of the graph above? Y-axis? Be specific.
7. Did the economy grow or shrink in 2005? 2008? 2010? How can you tell?
8. During what quarter of what year did the economy grow the most?
9. Based on the graph, what happened to the economy in third quarter of 2001? What event could explain this? What happened to the economy in 2008 – 2009? What events could explain this?
10. Overall, has the economy of the US grown or shrunk during the ten years shown on the graph? How can you tell?

Part II: Unemployment

1. Who is included in the civilian labor force? Who is not included?
2. Who is considered employed? Who is considered unemployed?
3. The population of Kazakhstan is 175 million and the labor force is 100 million. There are 15 million unemployed Kazakhstanis, 85 million employed, and 12 million adults that do not have a job and are not currently looking for one. What is the unemployment rate?

Part III: Inflation

Read “The Story of Inflation” comic book. While you read, answer the following questions.

1. What is the definition of inflation?
2. How does a rise in the “general price level” differ from the increase in the price of one good?
3. Why would the increase in the price of oil lead to inflation?
4. How is “cost-push inflation” different from “demand-pull inflation”?
5. What two groups of people are most hurt by inflation?
6. How does inflation affect business decision making?
7. What is “inflationary psychology”?
8. What two goods are excluded from “core” inflation?
9. What is one reason why inflation can occur?
10. What part of the government is responsible for trying to prevent inflation?

Understanding Economic Measures- ANSWER KEY

Part I: GDP

1. What does GDP measure? *All final goods and services produced in a country during a given year.*
2. What do economists count when computing GDP? *Only goods/services bought by final users.*
3. Why is GDP an important measure of our standard of living? *Increasing GDP with constant populations means there are more goods/ services for consumers to enjoy.*
4. What does GDP not measure? *No housework/ unpaid work or intermediate work.*
5. The economy of Shag Island produces only three goods: King Shag egg's, shag carpeting, and DVDs of the 1989 hilarious major motion picture *Shag* starring Bridget Fonda playing a tinybopper on a mad cap romp around Myrtle beach. Below is a chart showing the number and price of each good produced on Shag Island.
 - a. What was the GDP of Shag Island in 2008? *\$12,266*
 - b. Due to a new found popularity in the culture of the 70s and 80s during 2009, the production of shag carpet and DVDs grows by 200 each and the price rises by \$10 a roll for the carpeting and 25¢ for the DVDs, what will be the new GDP for Shag Island for 2009? *\$22,218*
6. What is measured on the X-axis of the graph above? Y-axis? Be specific. *Percent change in real GDP. Quarters of years.*
7. Did the economy grow or shrink in 2005? 2008? 2010? How can you tell? *Grew in 2005 & 2012 because the bars are all above the X-axis (positive % change). Shrank in 2008 because the bars below the x-axis are larger than the bars above the x-axis.*
8. During what quarter of what year did the economy grow the most? *III quarter of 2003*
9. Based on the graph, what happened to the economy in third quarter of 2001? What event could explain this? *Real GDP decreased; September 11. Real GDP decreased; 2008 financial crisis.*
10. Overall, has the economy of the US grown or shrunk during the five years shown on the graph? How can you tell? *Grown because the bars are almost all above the X-axis (positive % change).*

Part II: Unemployment

1. Who is included in the civilian labor force? Who is not included? *Everyone 16 or older that is working or looking for work. Individuals that are less than 16 or are not looking for work.*
2. Who is considered employed? Who is considered unemployed? *Employed- working part-time or full-time. Unemployed-not working but looking for a job.*
3. The population of Kazakhstan is 175 million and the labor force is 100 million. There are 15 million unemployed Kazakhstanis, 85 million employed, and 12 million adults that do not have a job and are not currently looking for one. What is the unemployment rate?*15%*

Part III: Inflation

1. What is the definition of inflation? *Increase in the general price level.*
2. How does a rise in the "general price level" differ from the increase in the price of one good? *Most goods/ services becoming more expensive rather than one or a handful.*
3. Why would the increase in the price of oil lead to inflation? *Increase cost of production for other goods and services.*
4. How is "cost-push inflation" different from "demand-pull inflation"? *Cost-push inflation occurs when the costs to produce increase, so producers must charge higher prices. Demand-pull inflation occurs when there is an increase in overall demand for goods/ services, bidding up prices.*
5. What two groups of people are most hurt by inflation? *People on fixed income and savers.*
6. How does inflation affect business decision making? *Entrepreneurs are unable to plan efficiently for costs.*
7. What is "inflationary psychology"? *People begin to expect higher prices, thus demanding higher wages and charging higher prices.*
8. What two goods are excluded from "core" inflation? *Oil and food.*
9. What is one reason why inflation can occur? *Answers may vary.*
10. What part of the government is responsible for trying to prevent inflation? *Federal Reserve; Congress*

Name: _____

Researching Economic Measures and the Business Cycle

Part I: Economic Indicators

Use the following websites to complete the chart below. Most of the information can be found in the right hand column of the two websites:

<http://www.bls.gov/>

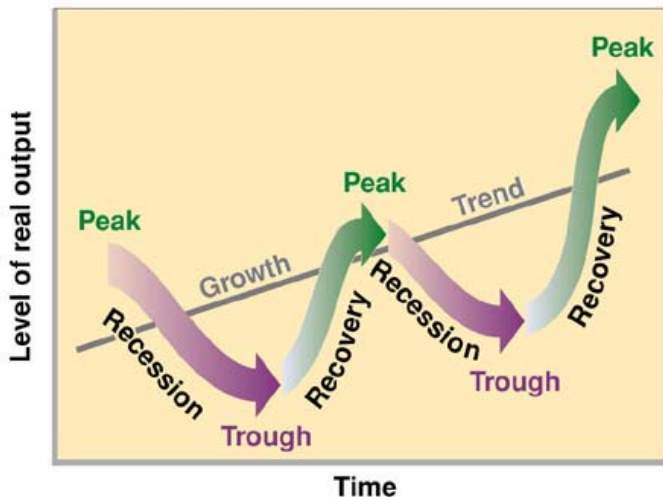
<http://www.bea.gov/>

Economic Measure	Data	Date/ Quarter
Consumer Price Index (CPI)		
Unemployment Rate		
Payroll Employment		
Average Hourly Earnings		
Producer Price Index (PPI)		
Productivity		
Real GDP (% Change)		
Personal Income (% Change)		
International Trade in Goods and Services		

Using the chart above, write a synthesizing statement about the US economy in the space below. Combine the data from above with concepts that we have covered in class to make a summarizing statement about the current status of the US economy.

Part II: The Business Cycle

Answer the following questions using your textbook and the diagram of the business cycle below.



1. Why is the Recession labeled on the curve going downward? What is happening to GDP during a recession?
2. How long does it take for the government to officially announce we are in a recession? When was the last US recession?
3. Why is the Expansion labeled on the curve going upward? What is happening to GDP during an expansion?
4. Why is recovery written in the parentheses below expansion? What is recovering?
5. What are some causes of an expansion?
6. Where on the curve is the economy doing the best? How would economist know that this is the best point the economy will reach on this business cycle?
7. What will eventually happen after an economy has reached a peak? What could cause this change?
8. What do you think the correlation between period of recession and the unemployment rate would be? What happens to unemployment rate during periods of expansion? What happens to unemployment rate during periods of contraction?

Part II: Historic Business Cycles

Answer the following questions using your textbook and the Business Cycle Dates that can be found at <http://www.nber.org/>. When there, go to the link “Data” and then “Business Cycle Dates”. Also use http://www.socialstudieshelp.com/Eco_Business_Cycle.htm to answer questions.

1. What is a **peak**?
2. During what month and year did the first recorded peak of a business cycle occur in the US?
3. During what month and year did the most recent peak of a business cycle occur in the US?
4. What is a **trough**?

5. During what month and year did the first recorded trough of a business cycle occur in the US?
6. During what month and year did the most recent trough of a business cycle occur in the US?
7. What is an **expansion**?
8. In what years was the longest recorded expansion in the US? Historically, what could have caused such a long period of expansion?
9. Another long period of expansions occurred between 1938 and 1945. What important historical event occurred during this period?
10. What is a **contraction**? What is another economic term for a period of contraction?
11. In what years was the longest recorded contraction in the US? What is the period called in United States history? What were some of the causes of this contraction?
12. How does the average number of months of expansion compared to the average number of months of contraction in the period of 1945-2001?
13. Do you see any pattern of when contractions and expansion occur in the data? Explain.
14. How does the data from historic business cycles compare to the chart from Part II showing a diagram of a business cycle? Do business cycle occur in an orderly fashion with similar lengths between peaks and troughs like in the diagram? Explain.
15. In the space below, draw a diagram that represents the business cycle from July 1990 to November 2001. Draw the expansions and contractions as accurately as possible using the data. Add dates for peaks and troughs.



Researching Economic Measures and the Business Cycle- Select ANSWERS

Part II: The Business Cycle

1. Why is the Recession labeled on the curve going downward? What is happening to GDP during a recession?

Real GDP decreases during a recession for at least 6 months.

2. How long does it take for the government to officially announce we are in a recession? When was the last US recession?

At least 6 months of decreasing real GDP; 2001.

3. Why is the Expansion labeled on the curve going upward? What is happening to GDP during an expansion?

Real GDP increases during an expansion.

4. Why is recovery written in the parentheses below expansion? What is recovering?

The economy is recovering from the recession.

5. What are some causes of an expansion?

Changes in capital investment, changes in inventory, changes in consumer confidence, social/political/international events, government intervention, etc.

6. Where on the curve is the economy doing the best? How would economist know that this is the best point the economy will reach on this business cycle?

Peak; economists look back once real GDP begins to decrease.

7. What will eventually happen after an economy has reached a peak? What could cause this change?

Eventually economy will contract at some point. Changes in capital investment, changes in inventory, changes in consumer confidence, social/ political/ international events, financial panics, etc.

8. What do you think the correlation between period of recession and the unemployment rate would be? What happens to unemployment rate during periods of expansion? What happens to unemployment rate during periods of contraction?

Inverse relationship between changes in real GDP and unemployment. During a recession, unemployment will be high and during expansion unemployment will be low.

Part II: Historic Business Cycles

1. What is a peak? **Highest point of expansion. Economists can only measure once contraction begins.**

2. During what quarter and year did the first recorded peak of a business cycle occur in the US? **2nd Quarter 1957**

3. During what quarter and year did the most recent peak of a business cycle occur in the US? **1st Quarter 2001**

4. What is a trough? **Lowest point of the recession. Economists can only measure once expansion begins.**

5. During what quarter and year did the first recorded trough of a business cycle occur in the US? **4th Quarter 1954**

6. During what quarter and year did the most recent trough of a business cycle occur in the US? **4th Quarter 2001**

7. What is an **expansion**? **Real GDP (production) growing and unemployment rate usually falls.**

8. In what years was the longest recorded expansion in the US? Historically, what could have caused such a long period of expansion? **1961-1970**

9. Another long period of expansions occurred between 1938 and 1945. What important historical event occurred during this period? **World War II**

10. What is a contraction? What is another economic term for a period of contraction? **Recession. Real GDP (production) decreases for 6 consecutive months; unemployment rate usually increases. An extended recession is called a depression.**

11. In what years was the second longest recorded contraction in the US? What is the period called in United States history? What were some of the causes of this contraction? **1929-1933; Great Depression.**

12. How does the average number of months of expansion compared to the average number of months of contraction in the period of 1945-2001? **Much longer expansions than recessions.**

13. Do you see any pattern of when contractions and expansion occur in the data? Explain.

Business cycle seems to occur almost every decade. Recessions used to be longer in 1800s.

14. How does the data from historic business cycles compare to the chart from Part II showing a diagram of a business cycle? Do business cycle occur in an orderly fashion with similar lengths between peaks and troughs like in the diagram? Explain. **Business cycles are not as orderly as diagram. Expansions are longer than contractions.**

Researching Current Economic Events in the News

Assignment: First, locate three (3) newspaper articles that cover topics related to the business cycle and important economic measures. Each article should be based on one of the possible topics below. You will also complete a short write up for each article.

Possible Topics:

- Gross Domestic Product (Real or Nominal)
- Inflation (consumer price index or producer price index)
- Unemployment rate and Changes in employment
- Consumer Spending/ Consumer Confidence
- Business Cycle (recession/ expansion)
- Congress and Fiscal Policy
- The Federal Reserve, Monetary Policy, and the Federal Funds Rate

Writing

Along with a print copy of newspaper article, write a brief reflection on the article including the following sections:

1. **Definition of terms:** Define all terms that relate to the study of economics
Example: Inflation is a rise in the general price level. CPI is a measure of inflation using....
2. **Summary of the article:** Discuss what was reported in the article, when the article refers to, and where the data/information came from.
Example: This article states that the Bureau of Labor Statistics measured that inflation rose last month by 2% in April of 2008.
3. **Economics significance of topic-** Why is this printed in a major newspaper? Why did we discuss it in class? Think. Think really hard.
Example: Inflation can decrease the value of a currency which can hurt low income families, individuals on fixed incomes, and lending institutions. Also as inflation rises, individuals and business alter their economic decision making in the following way...

Your write-up should meet the following guidelines:

- Typed
- At least one source outside of the book (the newspaper article)
- Complete sentences
- Correct grammar and spelling

Points	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized. 8)
Quality of Information	Information clearly relates to the main topic. Reflection meets all requirements. It includes several supporting details and/or examples.	Information clearly relates to the main topic. Reflection meets most requirements. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. Reflection meet some requirements. No details and/or examples are given.	Information has little or nothing to do with the main topic. Reflections does not meet requirements.
Mechanics	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors	A few grammatical spelling, or punctuation errors.	Many grammatical, spelling, or punctuation errors.
Sources	Sources are accurately documented in MLA format. At least one source per article.	Sources are documented, but not in MLA format. At least one source per article.	Sources are present, but no format whatsoever.	Sources are not present.
Follows Guides	Follows all assignment guidelines.	Follows most assignment guidelines.	Following some assignment guidelines.	Does not follow guidelines.

Practice Test Questions

1. What term is used to describe the percent of the labor force that does not have a job but is currently looking for one?
 - A leading economic indicator
 - B full employment
 - C unemployment rate
 - D structural unemployment
2. What term is used to describe an increase in the general price level?
 - A deflation
 - B monetary policy
 - C stagflation
 - D inflation
3. Which is a shortcoming of using Gross Domestic Product (GDP) as a measure of the economy?
 - A GDP only include final goods
 - B GDP does not include work done at home such as house renovations
 - C GDP is commuted in dollars
 - D GDP always includes inflation
4. Which best describes Gross Domestic Product (GDP)?
 - A monetary value of all final goods and services produced within a nation in a particular year.
 - B national income minus all non-income charges against output.
 - C monetary value of all economic resources used in producing a year's output.
 - D monetary value of all goods and services, final and intermediate, produced in a specific year.
5. What is the best description of the phrase "final goods and services" when referring to the measure of Gross Domestic Product (GDP)?
 - A goods and services that are unsold and therefore added to inventories.
 - B goods and services whose value has been adjusted for changes in the price level.
 - C goods and services purchased by ultimate users, as opposed to resale or further processing.
 - D the excess of U.S. exports over U.S. imports.
6. Christie O'Brien grows tomatoes for home consumption. Which would best describe how this activity would be measured in relation to GDP?
 - A excluded from GDP in order to avoid double counting.
 - B excluded from GDP because an intermediate good is involved.
 - C productive but is excluded from GDP because no market transaction occurs.
 - D included in GDP because it reflects production.
7. What term describes GDP data that have been adjusted for changes in the price level?
 - A real GDP
 - B current GDP
 - C actual GDP
 - D nominal GDP
8. Which term is used to describe recurring upswings and downswings in an economy's real GDP over time?
 - A recessions
 - B business cycles
 - C output yo-yos
 - D total product oscillations
9. Who is least likely to be hurt by unanticipated inflation?
 - A a disabled laborer who is living off accumulated savings
 - B a person that has loaned out money
 - C a person with a savings account with a low interest rate
 - D a person that has borrowed money
10. Which would most likely occur during a period of recession?
 - A cost-push inflation occurs
 - B unemployment rate falls
 - C production increase
 - D real gross domestic output falls

Practice Test Questions – ANSWER KEY

1. What term is used to describe the percent of the labor force that does not have a job but is currently looking for one?
A leading economic indicator
B full employment
C **unemployment rate**
D structural unemployment
2. What term is used to describe an increase in the general price level?
A deflation
B monetary policy
C stagflation
D **inflation**
3. Which is a shortcoming of using Gross Domestic Product (GDP) as a measure of the economy?
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4. Which best describes Gross Domestic Product (GDP)?
A **monetary value of all final goods and services produced within a nation in a particular year.**
B national income minus all non-income charges against output.
C monetary value of all economic resources used in producing a year's output.
D monetary value of all goods and services, final and intermediate, produced in a specific year.
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C a person with a savings account with a low interest rate
D **a person that has borrowed money**
10. Which would most likely occur during a period of recession?
A cost-push inflation occurs
B unemployment rate falls
C production increase
D **real gross domestic output falls.**