Measuring the Economy
Millions of workers and businesses participate in the U.S. economy. Measuring the country’s economy requires special economic tools.
CONCEPT REVIEW

Macroeconomics is the study of the economy as a whole and how major sectors of the economy interact.

CHAPTER 12 KEY CONCEPT

National income accounting uses statistical measures of income, spending, and output to help people understand what is happening to a country’s economy.

WHY THE CONCEPT MATTERS

Your economic decisions—combined with those of millions of other people—determine the fate of the nation’s economy. Can you afford to buy a new car? Is now a good time to change jobs? Should you take a risk in the stock market or keep your money safe in the bank? Understanding what is happening to the country’s economy will help you make better economic decisions.
Gross Domestic Product and Other Indicators

OBJECTIVES
In Section 1, you will
• define GDP and describe how it is measured
• explain how GDP has certain limitations
• identify other national income accounting measures

KEY TERMS
national income accounting, p. 350
gross domestic product (GDP), p. 350
nominal GDP, p. 352
real GDP, p. 352
nonmarket activities, p. 354
underground economy, p. 354
gross national product (GNP), p. 355
net national product (NNP), p. 355
national income (NI), p. 355
personal income (PI), p. 355
disposable personal income (DPI), p. 355

TAKING NOTES
As you read Section 1, complete a hierarchy chart like the one below to record what you learn about national income accounting.
Use the Graphic Organizer at Interactive Review @ ClassZone.com

What Is GDP?

As you have read, microeconomics and macroeconomics look at the economy through different lenses. While microeconomics examines the actions of individuals and single markets, macroeconomics examines the economy as a whole. Macroeconomists analyze the economy using national income accounting, statistical measures that track the income, spending, and output of a nation. The most important of those measures is gross domestic product (GDP), the market value of all final goods and services produced within a nation in a given time period.

The Components of GDP
To be included in GDP, a good or service has to fulfill three requirements. First, it has to be final rather than intermediate. For example, the fabric used to make a shirt is an intermediate good; the shirt itself is a final good. Second, the good or service must be produced during the time period, regardless of when it is sold. For example, cars made this year but sold next year would be counted in this year’s GDP. Finally, the good or service must be produced within the nation’s borders. Products made in foreign countries by U.S. companies are not included in the U.S. GDP.

Quick Reference
National income accounting is a way of evaluating a country’s economy using statistical measures of its income, spending, and output.

Gross domestic product (GDP) is the market value of all final goods and services produced within a nation in a given time period.

Products Included in GDP
Cars made in the United States are an example of goods counted toward U.S. gross domestic product (GDP).
Calculating GDP

Although there are several different ways to calculate GDP, economists often use the expenditures approach. With this method, they group national spending on final goods and services according to the four sectors of the economy: spending by households, or consumption; spending by businesses, or investment; government spending; and total exports minus total imports, or net exports. Economists identify consumption with the letter C; investment with the letter I; government spending with the letter G; and net exports with the letter X. To calculate GDP, economists add the expenditures from all sectors together: C+I+G+X=GDP.

Consumption includes all spending by households on durable goods, nondurable goods, and services. You drive to the movies in a durable good (an item that does not wear out quickly). You purchase a service when you pay for the movie (since you are not buying to own something). And you obtain a nondurable good (a good that is used up relatively soon after purchase) when you buy popcorn.

Investment, which measures what businesses spend, has two categories. One is fixed investment, which includes new construction and purchases of such capital goods as equipment, machinery, and tools. The other is inventory investment. This category, also called unconsumed output, is made up of the unsold goods that businesses keep on hand.

Government spending includes all the expenditures of federal, state, and local governments on goods and services. Examples include spending for defense, highways,

Source: U.S. Bureau of Economic Analysis, 2005 data

ANALYZE GRAPHS

1. In 2005, net exports was a negative number. What does this say about the relative amounts of exports and imports?

2. Did households, businesses, or the government contribute the most to U.S. GDP in 2005?
and public education. However, government spending on transfer payments, such as social security and unemployment benefits, is not included. These payments allow the recipients to buy goods and services, and these are counted as consumption.

**Net exports**, the final component of GDP, represents foreign trade. This component takes into account the goods and services produced in the United States but sold in foreign countries—in other words, exports. However, U.S. consumers and businesses also buy, or import, goods made in foreign countries. Cars, car parts, and crude oil are the largest imports in dollar value. The GDP counts only net exports—the value of U.S. exports minus the value of U.S. imports.

### Two Types of GDP

Economists use GDP to gauge how well a country's economy is doing. When GDP is growing, an economy creates more jobs and more business opportunities. When GDP declines, jobs and more business opportunities become less plentiful. To get a clearer picture of a country's economic health, economists calculate two forms of GDP—nominal and real.

The most basic form is **nominal GDP**, which is stated in the price levels for the year in which the GDP was measured. If prices never changed, nominal GDP would be sufficient. But prices tend to increase over time. In Figure 12.2, find the line that represents nominal GDP. If you estimate the difference from 1990 to 2005, the nominal GDP of the United States about doubled. However, during this time prices went up, adding dollars to GDP without adding value to the nation's output.

To factor out rising prices, economists use **real GDP**, which is nominal GDP adjusted for changes in prices. Real GDP is an estimate of the GDP if prices were to

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**QUICK REFERENCE**

**Nominal GDP** states GDP in terms of the current value of goods and services.

**Real GDP** states GDP corrected for changes in prices from year to year.

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**ANALYZE GRAPHS**

1. About how much did nominal GDP increase from 1990 to 2000?
2. About how much did real GDP increase over the same period?
3. Why do the two lines cross at the year 2000?
Economic Indicators and Measurements

remain constant from year to year. To find real GDP, economists compare nominal GDP to a base year. Look again at Figure 12.2, which uses 2000 as a base year. Since real GDP eliminates price differences, the line for real GDP rises more gradually than the line for nominal GDP. Real GDP provides a more accurate measure of economic performance.

APPLICATION Applying Economic Concepts

A. If output remained the same, how would a year of falling prices affect nominal GDP? How would it affect real GDP?

<table>
<thead>
<tr>
<th>Year</th>
<th>TVs Produced</th>
<th>TV Price</th>
<th>Nominal GDP</th>
<th>Real GDP, base: 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>500</td>
<td>$100</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>2005</td>
<td>600</td>
<td>$100</td>
<td>$60,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>2006</td>
<td>600</td>
<td>$120</td>
<td>$72,000</td>
<td>$60,000</td>
</tr>
</tbody>
</table>

To better understand nominal and real GDP, imagine a country that produces only one good: TVs. If you know the price of TVs and the number produced, you can calculate that country’s nominal and real GDP. Use the table to find the data for these calculations.

**Step 1:** Calculate nominal GDP for 2004. Nominal GDP is the product of the number of TVs produced and the price of TVs that year.

\[
\text{Nominal GDP} = \text{Number produced} \times \text{Price in that year}
\]

\[
500 \times 100 = 50,000
\]

The table shows that nominal GDP grew each year. If you judged only by nominal GDP, the economy of this country would seem to be growing.

**Step 2:** Analyze the nominal GDP figures. Why did nominal GDP increase from 2004 to 2005? The number of TVs produced increased. Why did nominal GDP increase from 2005 to 2006? The price of TVs increased.

The output of the country’s economy grew from 2004 to 2005, but it stayed the same from 2005 to 2006, despite the increase in prices. Calculating real GDP produces a better estimate of how much a country’s economy is growing.

**Step 3:** Calculate real GDP for 2006. Real GDP is the product of the number of TVs produced in the current year and the price of TVs in the base year. In this case, use 2004 as the base year.

\[
\text{Real GDP} = \text{Number produced} \times \text{Price in the base year}
\]

\[
600 \times 100 = 60,000
\]

Since 2004 is the base year, nominal and real GDP are the same for 2004. Real GDP allows you to compare the output of the country’s economy in different years.
What GDP Does Not Measure

KEY CONCEPTS

Although GDP provides an important estimate of how well the economy is performing, it does not measure all output. It does not measure nonmarket activities, such as home childcare or performing one’s own home repairs. GDP also does not measure output from the underground economy, market activities that go unreported because they are illegal or because those involved want to avoid taxation. Further, GDP does not measure “quality of life” issues related to economic output.

Nonmarket Activities

Some productive activities do not take place in economic markets. For example, there is no effective way to measure the output of plumbers who install or repair plumbing systems in their own homes or people who do volunteer work for schools or hospitals. By far the biggest nonmarket activity, also left out of GDP, consists of the many services—cooking, cleaning, childcare—provided by homemakers.

Underground Economy

Also missing from GDP is the underground sector of the economy. Some activities are kept underground because they are illegal—drug dealing, smuggling, gambling, and selling stolen goods, for example. When goods are rationed or otherwise restricted, illegal trading occurs on what is called the black market. Other underground activities are themselves legal, but the way the payment is handled is not. For example, a plumber who does repairs for a neighbor might receive payment in cash and not declare it as taxable income. Estimates suggest that the underground economy would make up 8 to 10 percent of the U.S. GDP.

Quality of Life

Countries with high GDPs have high living standards. But GDP does not show how the goods and services are distributed. The United States has the largest GDP of any country, but more than 10 percent of its people still live in poverty. GDP also does not express what products are being built and services offered: for example, are there more jails being built than schools?

APPLICATION Explaining an Economic Concept

B. If you get paid in cash to baby-sit, mow lawns, or do other chores for neighbors, are you part of the underground economy? Why or why not?
Other Economic Performance Measures

KEY CONCEPTS

GDP is not the only measure that economists use to gauge economic performance. Several other measures are derived by making adjustments to GDP.

- **Gross national product (GNP)** is the market value of all final goods and services a country produces in a given time period. GNP equals GDP plus the income from goods and services produced by U.S. companies and citizens in foreign countries but minus the income foreign companies and citizens earn here.

- **Net national product (NNP)** is GNP minus depreciation of capital stock—in other words, the value of final goods and services less the value of capital goods that became worn out during the time period.

- **National income (NI)** is the total income earned in a nation from the production of goods and services in a given time period. It is calculated by subtracting indirect business taxes, such as property and sales taxes, from NNP.

- **Personal income (PI)** is the income received by a country’s people from all sources in a given time period. It can be calculated from NI by subtracting social security taxes, corporate profit taxes, and corporate profits not paid to stockholders and by adding social security, unemployment, and welfare payments.

- **Disposable personal income (DPI)** is personal income minus personal income taxes. It shows how much money is actually available for consumer spending.

QUICK REFERENCE

**FIGURE 12.4 National Income Accounting**

\[
\text{GDP} + \text{income earned abroad by U.S. businesses and citizens} \\
- \text{income earned in U.S. by foreign businesses and citizens} \\
\quad = \text{GNP} - \text{depreciation of capital stock} \\
\quad = \text{NNP} - \text{indirect business taxes} \\
\quad = \text{NI} - \text{income earned but not received} \\
\quad + \text{income received but not earned} \\
\quad = \text{PI} - \text{personal taxes} \\
\quad = \text{DPI}
\]

ANALYZE CHARTS

What three figures do you need in order to calculate personal income (PI)?

APPLICATION Making Inferences

C. Under what circumstances might a country’s GNP be greater than its GDP?
Synthesizing Economic Data

Synthesizing is a skill used by economists to interpret economic trends. Synthesizing involves interpreting various data to form an overview of economic performance. A synthesis is often stated as a broad summary statement.

PRACTICING THE SKILL  National income accounting involves the collection and analysis of data on key economic variables. Economists synthesize the data to arrive at an overview of national economic performance. The table below presents data for variables used to determine gross domestic product (GDP), a key factor in national income accounting.

<table>
<thead>
<tr>
<th>Year</th>
<th>Consumption Expenditure</th>
<th>Investment Expenditure</th>
<th>Government Expenditure</th>
<th>Net Export Expenditure</th>
<th>Nominal GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>1,757</td>
<td>479</td>
<td>566</td>
<td>-13</td>
<td>2,789</td>
</tr>
<tr>
<td>1985</td>
<td>2,720</td>
<td>736</td>
<td>879</td>
<td>-115</td>
<td>4,220</td>
</tr>
<tr>
<td>1990</td>
<td>3,840</td>
<td>861</td>
<td>1,180</td>
<td>-78</td>
<td>5,803</td>
</tr>
<tr>
<td>1995</td>
<td>4,976</td>
<td>1,144</td>
<td>1,369</td>
<td>-91</td>
<td>7,398</td>
</tr>
<tr>
<td>2000</td>
<td>6,739</td>
<td>1,736</td>
<td>1,722</td>
<td>-380</td>
<td>9,817</td>
</tr>
<tr>
<td>2005</td>
<td>8,746</td>
<td>2,105</td>
<td>2,363</td>
<td>-727</td>
<td>12,487</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

THINKING ECONOMICALLY Synthesizing

1. What trend can be seen in U.S. nominal GDP? What can you tell from this about the growth of the U.S. economy? Do you need more information?

2. Which expenditure accounts for most of GDP?

3. Does the proportion of this expenditure to the other two positive expenditures remain about the same in the six years shown here? Briefly explain how you estimated this.
SECTION 1  Assessment

REVIEWING KEY CONCEPTS

1. Explain the relationship between the terms in each of these pairs.
   a. nominal GDP  
   real GDP
   b. gross national product  
   net national product
   c. personal income  
   disposable personal income

2. What are the four components of GDP?

3. What is an example of a durable good? a nondurable good?

4. Name two economic activities that GDP does not measure.

5. Why are transfer payments not included as a government expenditure when calculating GDP?

6. Using Your Notes  Write a brief summary of the methods used to calculate national income and the purposes of each accounting method. Refer to your completed hierarchy chart.
   Use the Graphic Organizer at Interactive Review @ ClassZone.com

CRITICAL THINKING

7. Drawing Conclusions  List some things that have become more expensive during your lifetime. Explain how a rise in price level affects nominal GDP and real GDP.

8. Making Inferences  If consumption is especially high compared with other years, what might you generalize about the health of the economy?

9. Explaining an Economic Concept  What is the underground economy? What impact does it have on a nation’s GDP?

10. Drawing Conclusions  Imagine that a new country is discovered on an island in the middle of the Pacific Ocean. The country’s people have never left the island, and no foreigners have ever been there. What would the relationship be between the country’s GDP and its GNP? Why?

11. Challenge  How would the following affect GDP?
   a. Government transfer payments increase.
   b. Student sells used CD to record store.
   c. Car owner pays auto repair shop $500 to fix his car.

Identifying Intermediate and Final Goods
Look at the following list of goods and who purchased them.

<table>
<thead>
<tr>
<th>Goods</th>
<th>Purchaser</th>
</tr>
</thead>
<tbody>
<tr>
<td>copier paper</td>
<td>accounting firm</td>
</tr>
<tr>
<td>refrigerator</td>
<td>home consumer</td>
</tr>
<tr>
<td>stainless steel</td>
<td>manufacturer</td>
</tr>
<tr>
<td>eggs</td>
<td>home consumer</td>
</tr>
<tr>
<td>eggs</td>
<td>factory that makes frozen baked goods</td>
</tr>
<tr>
<td>battery</td>
<td>car owner</td>
</tr>
<tr>
<td>paint</td>
<td>furniture maker</td>
</tr>
</tbody>
</table>

Categorize Economic Information  Decide whether each good is an intermediate good or a final good.

Challenge  Why is it important to make a distinction in national income accounting between intermediate and final goods?
### What Is the Business Cycle?

#### KEY CONCEPTS

Economic changes often follow a broad pattern. During the 1990s, the U.S. economy expanded. In 2001, the economy slowed down. It then returned to a period of growth. Such changes are an example of the business cycle, a series of periods of expanding and contracting economic activity. The business cycle is measured by increases or decreases in real GDP. The cycle has four distinct stages: expansion, peak, contraction, and trough.

#### STAGE 1 Expansion

In the expansion phase, real GDP grows from a low point, or trough, as you can see in the graph in Figure 12.6. The expansion is a period of economic growth, an increase in a nation’s real gross domestic product (GDP). During an expansion, jobs are relatively easy to find, so unemployment goes down. More and more resources are needed to keep up with spending demand. As resources become more scarce, their prices rise. The length of each phase may vary both within a cycle and from cycle to cycle. The longest expansion in U.S. history took place over the course of ten years from 1991 to 2001.

Business Cycles  Workers and businesses ride the ups and downs of the economy.
**STAGE 2 Peak**

The point at which real GDP is the highest represents the peak of the business cycle. As prices rise and resources tighten, businesses become less profitable. From that point on, real GDP declines as businesses curtail production.

**STAGE 3 Contraction**

The contraction phase begins after the peak. As producers cut back, resources become less scarce and prices tend to stabilize or fall. Unemployment rises because employers produce less. Sometimes the contraction phase becomes a recession, a contraction lasting two or more quarters (six months or more). On rare occasions, as in the 1930s, a contraction turns into a depression, an extended period of high unemployment and limited business activity. While prices usually remain about the same or go down during the contraction phase, sometimes they go up. These are periods of stagflation—stagnation in business activity and inflation of prices.

**STAGE 4 Trough**

The final phase of the business cycle is the trough, the point at which real GDP and employment stop declining. A business cycle is complete when it has gone through all four phases, from trough to trough or from peak to peak.

**APPLICATION Explaining an Economic Concept**

A. In terms of the business cycle, what is unusual about stagflation?
KEY CONCEPTS

One way to understand business cycles is through the concepts of demand and supply. In this case the concepts apply not to a single product or business but to the economy as a whole.

Aggregate Demand

Aggregate demand is the total amount of goods and services that households, businesses, government, and foreign purchasers will buy at each and every price level. In Figure 12.7, the vertical axis, labeled “Price level,” shows the average price of all goods and services. The horizontal axis, labeled “Real GDP,” shows the economy’s total output. The aggregate demand curve (AD) is downward sloping. As the price level decreases the purchasing power of money increases.

Aggregate Supply

Aggregate supply is the total amount of goods and services that producers will provide at each and every price level. Note that in Figure 12.8 the aggregate supply curve (AS) does not look like the supply curves in Chapter 5. The aggregate supply curve is almost horizontal when real GDP is low—during times of recession or depression—because businesses try not to raise their prices when the economy is weak. The middle part of the aggregate supply curve slopes upward, with prices increasing as real GDP increases. But during times of high inflation, prices rise without contributing to real GDP, and the aggregate supply curve becomes almost vertical.

Quick Reference

Aggregate demand is the sum of all the demand in the economy.
Aggregate supply is the sum of all the supply in the economy.

Analyze Graphs

1. What does a normal demand or supply graph use as an x-axis? What does it use as a y-axis?
2. Why are the x and y axes different for the aggregate demand and supply graphs?

Use an interactive aggregate demand and aggregate supply graph at ClassZone.com.
Macroeconomic Equilibrium

When the quantity of aggregate demand equals the quantity of aggregate supply, the economy reaches macroeconomic equilibrium. Figures 12.9 and 12.10 illustrate a variety of different possibilities, but let’s consider one particular example shown in Figure 12.9. Macroeconomic equilibrium occurs where the aggregate demand curve (AD1) intersects the aggregate supply curve (AS). P1 indicates the equilibrium price level, and Q1 shows the equilibrium level of real GDP.

Think about business cycles. An increase in aggregate demand shifts the aggregate demand curve to the right (AD2). Aggregate demand becomes greater at all price levels, and equilibrium real GDP rises (Q2), marking an expansion phase. If aggregate demand were to decrease, the aggregate demand curve would shift to the left (AD3). This would result in a lower equilibrium real GDP (Q3)—in other words, an economic contraction.

Shifts in aggregate supply affect real GDP in a similar way, as you can see in Figure 12.10. An increase in aggregate supply shifts the aggregate supply curve to the right (AS2). As aggregate supply increases, the price level goes down (P2) and equilibrium real GDP rises (Q2), marking an expansion phase. If aggregate supply were to decrease, the aggregate supply curve would shift to the left (AS3). The result would be a higher price level (P3) and lower equilibrium real GDP (Q3)—in other words, stagflation.

**APPLICATION Analyzing Cause and Effect**

B. Assuming aggregate demand remains the same, why does the price level go up when aggregate supply decreases?
Why Do Business Cycles Occur?

**KEY CONCEPTS**

You have seen that shifts in aggregate demand and aggregate supply indicate changes in the business cycle. But what causes these shifts? Four factors are especially important: (1) decisions made by businesses, (2) changes in interest rates, (3) the expectations of consumers, and (4) external shocks to the economy. These factors involve the “ripple effect,” the cause-and-effect interactions that ripple through the economy.

**FACTOR 1 Business Decisions**

When businesses decide to decrease or increase production, their decisions can have far-reaching effects. If enough businesses make similar decisions, it can lead to a change in the business cycle.

**Demand slump** Consider the ripple effect of a decision by businesses in the recording industry. In response to a slump in demand, the producers decide to reduce production of compact discs. First, they reduce the number of hours worked at their compact disc manufacturing facilities. Some workers get laid off, others work shorter hours. In a related move, the recording businesses cut back on their investment in new CD manufacturing equipment. That decision will lead to a decrease in the demand for machinery, which puts producers of the machinery in the same situation that the recording businesses were in. The machinery businesses will also cut back on production and lay off workers. The recording industry businesses also decide to reduce the number of new recordings they commission, thereby reducing the income of musicians, recording engineers, record promoters, and other associated workers. All of the workers that are now unemployed or working less must cut back on their purchases.

The single decision by the recording industry businesses had numerous consequences. By itself, it might not be enough to change the business cycle for the entire country. But if enough businesses make similar decisions, a contraction in the business cycle might result.

**New technology** Alternatively, business decisions can also increase aggregate supply and fuel an expansion. For example, suppose computer chip manufacturers adopt a new technology that greatly reduces production costs. Those manufacturers become more productive—the supply of their products increases and the cost of their products goes down. Businesses that make products that use computer chips can make their products more cheaply. Other businesses may now be able to make new products with the more readily available computer chips. All of these businesses hire more workers to handle the increased production. The aggregate supply increases, and the economy experiences an expansion.

Find an update on factors affecting the business cycle at ClassZone.com
FACTOR 2 Changes in Interest Rates

Another event that has a ripple effect in the economy and causes shifts in aggregate demand and supply is a change in interest rates. Rising interest rates, for example, make it more costly for consumers to borrow money to make purchases—from televisions to cars to houses. This decreased purchasing power lowers the level of aggregate demand and promotes a contraction in the economy. When interest rates fall, the opposite happens. Aggregate demand rises, promoting an expansion.

Consider what may happen to businesses when interest rates rise. With the higher cost of borrowing money, businesses may cut back on their investment in capital goods. As you saw earlier, such a cutback would lead to less business activity for the producers of capital goods. As the aggregate supply decreases, a contraction in the economy is likely. But falling interest rates would lead to an increase in aggregate supply and an economic expansion.

Higher or lower interest rates also affect the housing market. When interest rates are low, people are inclined to purchase housing rather than rent, so housing sales and all related economic activities increase, contributing to an economic expansion. When interest rates rise, the high cost of loans limits mortgage eligibility, so more people rent. Housing sales slow down, contributing to an economic contraction.

FACTOR 3 Consumer Expectations

Every month, 5,000 households are surveyed to find out how people are feeling about the economy, and the results are published in the Consumer Confidence Survey report. Why? The way consumers are feeling about prices, business activity, and job prospects influences their economic choices, and their choices can bring about changes in aggregate demand. For example, when consumers are confident about the future and believe that they are economically secure, they tend to consume more, driving up aggregate demand and encouraging an economic expansion.

FACTOR 4 External Issues

A nation’s economy can also be strongly influenced by issues and events beyond its control or outside of its borders. Examples include such natural disasters as Hurricanes Katrina and Rita, which struck the Gulf Coast in the summer of 2005. The hurricanes damaged oil refineries, oil wells, and offshore oil platforms. The effects of Katrina and Rita, combined with conflicts in other oil-producing countries, led to higher oil prices and slowed down the growth of the U.S. economy.

The oil embargo of 1973 is another example. The Organization of the Petroleum Exporting Countries (OPEC) reduced the amount of oil supplied to Western nations that had supported Israel in the Yom Kippur and October wars. The price of oil rose by 400 percent. The higher prices raised production costs and resulted in an economic contraction in the United States.

APPLICATION Analyzing Cause and Effect

C. Describe the ripple effect of a natural disaster like Hurricane Katrina on the economy.

External Issues
Natural disasters can affect the economy. Hurricane Katrina washed this oil-drilling platform into this bridge.
Predicting Business Cycles

KEY CONCEPTS

Economists try to predict changes in the business cycle to help businesses and the government make informed economic choices. They base their predictions on sets of economic indicators.

- **Leading indicators** are measures of economic performance that usually change before real GDP changes. Examples include new building permits, orders for capital goods and consumer goods, consumer expectations, average manufacturing workweek, stock prices, and the money supply. Economists look for trends in these indicators that last several months before they predict a change.

- **Coincident indicators** are measures of economic performance that usually change at the same time as real GDP changes. These indicators include such items as employment, sales volume, and personal income.

- **Lagging indicators** are measures of economic performance that usually change after real GDP changes. Such indicators are useful for confirming the end of an expansion or contraction in the business cycle. They include length of unemployment and the ratio of consumer credit to personal income.

**APPLICATION Using a Decision-Making Process**

D. If you were the manager of an electronics store, how might you use the news that leading indicators suggest a contraction in the economy in six months?
Business Cycles in U.S. History

KEY CONCEPTS

The U.S. economy has experienced many booms and busts throughout the nation’s history. Some historians suggest that the depression that struck Europe and the United States in the 1870s may have been worse than the Great Depression of the 1930s. But the differences in the amount and kinds of data collected between the two periods make direct comparisons difficult.

The National Bureau of Economic Research (NBER) has tracked business cycles in the United States since 1929. It has also estimated U.S. business cycles dating back to the mid-1800s. According to the NBER, the U.S. economy went through about 20 cycles in the 1900s. Notable cycles include the Great Depression of the 1930s, the decade-long expansion of the 1990s, and the financial crisis that began around 2007.

The Great Depression

For more than a decade, beginning with the stock market crash in 1929, the United States and much of the world suffered a terrible economic contraction. Not until the United States entered World War II in 1941 did the American economy begin a full recovery. From 1929 to 1933, real GDP in the United States declined by about a third. Sales in some big businesses, including General Motors Corporation, declined by as much as 50 percent. In the resulting cutbacks, millions of workers lost their jobs. The unemployment rate skyrocketed from 1929 to 1933, leaving one in four American workers jobless. Businesses failed at a higher than usual rate, and banks failed at a tremendously high rate. The number of bank closings, either temporary or permanent, soared from 659 in 1929 to 4,000 in 1933.

President Herbert Hoover, who had been elected in 1928, was not able to bring about a recovery. Franklin D. Roosevelt, accepting the nomination to run for president against Hoover in 1932, promised Americans “a new deal,” and the programs he enacted after winning the election came to be known by that name. Roosevelt’s New Deal programs focused on federal spending to help the economy revive. Through a number of government agencies created just for this purpose, many Americans were put back to work—employed by the federal government itself. At the same time, American businesses came under closer government regulation, intended to prevent problems like those that led to the Depression. Spending by the federal government rose from about 3 percent of GDP in the 1920s to about 10 percent in the mid-1930s.

Economists debate to what degree spending on New Deal programs contributed to a recovery. But when the United States entered World War II in 1941, government spending rose even higher, and the Great Depression finally ended.
According to NBER, there have been about a dozen economic contractions and expansions in the U.S. economy since the Great Depression. Generally, these recessions have been less severe and have occurred less often than those before the 1930s. Over the same period, some remarkably strong expansions have taken place.

- Increased business investment, strong exports, and government spending contributed to an expansion from 1961 to 1969.
- An oil embargo drove up fuel prices and sparked a contraction from 1973 to 1975. Prices generally continued to rise, despite increased unemployment.
- After the government tamed inflation, the U.S. economy experienced another long expansion from 1982 to 1990.
- Explosive growth in information technology led to the longest expansion on record from 1991 to 2001.

A severe contraction began in 2007. Real estate prices had skyrocketed, driven up by lax lending policies and speculative purchases. The financial industry turned groups of mortgages into investment vehicles, which further increased the bubble. When real estate prices began to plummet, many banks and other financial companies saw their investments wither. Credit markets froze as lenders lacked funds to lend and lost confidence that their loans would be repaid. As with the Great Depression, the problem affected countries around the world. Governments stepped in to try to stabilize the crisis.

**FIGURE 12.12 **U.S. BUSINESS CYCLES

**ANALYZE GRAPHS**
1. According to the graph, how many recessions occurred from 1929 to 2005?
2. About how long was the longest business cycle shown on this graph?

**APPLICATION Making Inferences and Drawing Conclusions**

E. How did business cycles change after the Great Depression?
SECTION 2  Assessment

REVIEWING KEY CONCEPTS

1. Explain the relationship between the terms in each of these pairs.
   a. contraction  b. aggregate demand  c. leading indicators
      expansion  aggregate supply  lagging indicators

2. Between which two points of the business cycle is a contraction measured?

3. What is the difference between demand and aggregate demand?

4. Name four factors that can trigger changes in the business cycle.

5. Name three coincident indicators of the Great Depression.

6. Using Your Notes  Write a brief statement of your expectations for the economy from the point of view of the consumer. Use your completed cluster diagram and make references to what you have learned about the business cycle.

   Use the Graphic Organizer at Interactive Review @ ClassZone.com

CRITICAL THINKING

7. Comparing and Contrasting Economic Information  What are the similarities and differences between the Great Depression and the recession that began in 2007?

8. Solving Economic Problems  Did President Roosevelt’s New Deal focus on generating aggregate demand, or was its main focus on increasing aggregate supply? Explain.

9. Analyzing Cause and Effect  Are the components that are considered leading economic indicators causes or effects of changes in the business cycle?

10. Challenge  In the 1990s many people speculated that the economy had been transformed by new technologies. Paul A. Volcker, former chairman of the U.S. Federal Reserve Bank, described it this way: “The speed of communication, the speed of information transfer, the cheapness of communication, the ease of moving things around the world are a difference in kind as well as degree.” Do you think that business cycles are inevitable? Can they ever be eliminated entirely? Explain your answer.

Interpreting Graphs

The graph shows an economy at its macroeconomic equilibrium, where the aggregate demand curve (AD1) intersects the aggregate supply curve (AS1). P1 indicates the equilibrium price level, and Q1 shows the equilibrium level of real GDP.

Draw Aggregate Demand and Aggregate Supply Curves

Read the following scenarios. Copy the graph above onto your own paper. Read the following scenarios. Then graph the changes that would occur in the Scenario 1 in blue. Graph the changes that would occur in the Scenario 2 in red.

Scenario 1: In a booming economy, interest rates begin to rise. Manufacturers and other producers, wary of borrowing money at higher rates, begin to cut back on production.

Scenario 2: Consumer confidence is high. Most people are optimistic about their job prospects and security, and they are willing to spend money on luxuries.

Challenge  As a consumer, how might your confidence be affected in Scenario 1?

Use SMARTgrapher @ ClassZone.com to complete this activity.
What Is Economic Growth?

**KEY CONCEPTS**

In Section 2 you learned about the business cycle, the pattern of expansion and contraction in a nation’s economy. In this section you will learn more about economic growth, as measured by changes in real gross domestic product (GDP).

**Gauging Economic Growth**

Before Adam Smith (whom you learned about in Chapter 1, Section 4), many people believed that population growth and higher taxation were the secrets to economic growth. The theory held that more people paying more taxes was the best way to fill a nation’s treasury. Another view, called mercantilism, argued that increased national wealth came through exporting more goods than a country imports. In this way, the country would gain gold or silver currency from other countries.

Adam Smith, however, saw that the real “wealth of nations” lay in their productive capacities. Taxes could be so high that they limit the amount of funds available for business investment and consumer spending, thereby reducing economic growth. In Smith’s view, foreign trade allows a country to focus its resources on what it does best. The more efficiently a nation uses its resources, the more productive it will be and the larger its economy will grow. Smith’s views proved to be accurate, and they serve as the basis for modern economics.

The best measure of economic growth is not simply the amount of money a nation has or how much its population increases, but rather the increase in its real GDP. The rate at which real GDP changes is a good indicator of how well a country’s resources are being utilized.
Population and Economic Growth

Population growth influences economic growth. A country's real GDP might be growing, but if its population is growing at an even faster rate, the increase in real GDP might simply reflect more workers contributing to the economy. Think of a potluck dinner. If each person brings one dish, the amount of food per person will be the same whether you invite 10 people or 100.

To get a clearer picture of economic growth, economists use a measure called real GDP per capita, which is real GDP divided by total population. Real GDP per capita reflects each person's share of real GDP. In terms of the potluck dinner, if each person brings more than one dish to the next potluck, the amount of food per person will have increased.

Real GDP per capita is the usual measure of a nation's standard of living. Nations with higher real GDP per capita tend to have populations that are better educated and healthier. However, real GDP per capita does not mean that each person gets that amount of money. Some people will get more, others less. It also does not measure quality of life. For example, people might have to work longer hours to achieve higher rates of economic growth, leaving them with less leisure time.

APPLICATION Explaining an Economic Concept

A. Why does a nation's real GDP have to increase at a faster rate than its population for significant economic growth to take place?
What Determines Economic Growth?

**KEY CONCEPTS**

What drives economic growth? Why are some nations growing at a faster pace than others? Four key factors influence the rate of economic growth—natural resources, human resources, capital, and technology and innovation.

**FACTOR 1 Natural Resources**

One factor in economic growth is access to natural resources, especially arable land, water, forests, oil, and mineral resources. However, some countries, such as Japan, have very limited natural resources, yet their economies have grown rapidly. Others, such as India, which has the fourth-largest reserve of coal in the world and arable land covering more than half its territory, have developed more slowly.

**A GLOBAL PERSPECTIVE**

**Do Natural Resources Guarantee Wealth?**

Not necessarily. In fact, countries with abundant natural resources generally do not perform as well economically as countries with fewer natural resources—a phenomenon economists refer to as “the resource curse.” In Nigeria, for example, although oil is plentiful, personal income is low. GDP per capita is about $1,400 (in U.S. dollars). Poverty is widespread, with an estimated 60 percent of Nigeria’s population below the poverty line—and Nigeria has the largest population of any African country.

At the other end of the spectrum is Japan. Although the country has few natural resources, the strength of Japan’s economy is second only to that of the United States. GDP per capita is about $30,000 (in U.S. dollars). What Nigeria lacks, but Japan has, are the basic structures of a free market economy—private ownership, the profit motive, an effective government, and economic competition. These economic institutions are more important than natural resources for generating economic growth. Japan, with few natural resources, achieved economic success by developing alternative sources of wealth—industry and foreign trade.

**CONNECTING ACROSS THE GLOBE**

1. **Synthesizing Economic Information** What role do natural resources play in a country’s economic strength? Explain your answer.

2. **Drawing Conclusions** Figure 12.14 illustrates oil production and consumption in Nigeria and Japan. What would happen to each country’s economy if it produced less oil? What if each produced more?
**FACTOR 2 Human Resources**

Another key factor in economic growth is the labor force. Economists measure this partly through **labor input**—the size of the labor force multiplied by the length of the workweek. The steady declines in the length of the workweek in most countries since the early 1900s have been more than made up for by the growth in the population, so labor input has grown. Perhaps even more important than the raw numbers, however, is the level of human capital—the skills and knowledge—that the labor force brings to its tasks. Some economists believe that human capital is the single most important component in economic growth.

**QUICK REFERENCE**

**Labor input** is the size of the labor force multiplied by the length of the workweek.

**FACTOR 3 Capital**

You learned in Chapter 1 that natural resources, labor, and capital come together through the creativity of an entrepreneur to produce goods and services. Capital is critical to this process and to economic growth. More and better capital goods increase output: the more machines a factory has and the better designed they are, the more goods the factory can churn out. Multiply this by the number of factories across a nation and the increased output equals higher GDP.

The economy also grows when more capital is available per worker. An increase in the capital to labor ratio is called **capital deepening**. In other words, workers are provided with more and better equipment to work with. The Industrial Revolution is a prime example of capital deepening. Sewing machines, for example, allowed clothing manufacturers to make more clothing per worker than if the workers had been sewing by hand.

**QUICK REFERENCE**

**Capital deepening** is an increase in the ratio of capital to labor.

**FACTOR 4 Technology and Innovation**

Technology and innovation are also important factors in economic growth. These factors promote the efficient use of other resources, which in turn leads to increased output. Some of the key technological developments that have contributed to economic growth include steam power, electricity, and the automobile.

Innovations can also increase economic growth. Something as simple as adjusting an order form can contribute to economic growth by reducing the amount of time needed to complete a task. Other innovations might improve customer service or reduce the amount of material needed to create a product.

Information technology has had a strong impact on economic growth. Technological advances in producing the information technology itself have led to a dramatic decline in prices. With lower prices for technology, firms are engaging in capital deepening without having to spend more money.

**APPLICATION Writing About Economics**

B. Using the four factors, explain how developing countries like Nigeria might improve their economic growth.
Productivity and Economic Growth

**KEY CONCEPTS**

**Productivity** refers to the amount of output produced from a set amount of inputs. When the same amount of inputs produces more output, productivity has increased. In Chapter 9, you learned about labor productivity—the amount of goods or services produced by a worker in an hour. But the broader sense of productivity includes the productivity of both labor and capital.

For example, imagine that you begin building bookshelves. The inputs would include your labor plus capital, in the form of the workshop, hammers, glue, and other supplies. At first, it may take you a week to complete one bookshelf. In the process, you may waste materials as you make mistakes, and you may find that some of your tools are not ideal for the task. But after you have built several bookshelves and acquired the right tools for the job, your productivity increases. Using the same amount of input, you might now be able to produce two bookshelves per week.

This section concerns the productivity of a country’s entire economy. As a country becomes more productive, its economy is likely to grow.

**How Is Productivity Measured?**

To measure the productivity of a single business, you would compare the inputs to the outputs. Using the bookshelf example, you would compare the amount of capital and number of hours worked to the number of bookshelves produced. But how can we measure the productivity of a nation’s economy, which is made up of millions of different people and businesses? Economists use a measurement called [multifactor productivity](#), the ratio between an industry’s economic output and its labor and capital inputs. By collecting multifactor productivity data on a country’s major industries and business sectors, economists can estimate the productivity of the entire economy.

**What Contributes to Productivity?**

Several factors contribute to changes in productivity.

**Quality of Labor** A better educated, healthier workforce tends to be more productive. Using the bookshelf example, if you were to take classes in woodworking, your enhanced knowledge would enable you to produce more and better shelves. In general, the more educated the workforce, the more productive it is. As for health, people are usually more productive when they feel well than when they feel sluggish or ill.

**Technological Innovation** Historically, as during the Industrial Revolution, new machines and technologies helped countries produce more output from the same amount of inputs. In recent times, the desktop computer and computer technology generally have generated productivity gains.

**Energy Costs** Gas, electricity, and other fuels power the technologies that increase productivity. When energy costs rise, those tools become more expensive to use and productivity declines. By the same token, when energy costs fall, using advanced tools becomes less expensive and productivity rises.
Financial Markets The easier it is for funds to flow to where they are needed, the more productive the economy becomes. Banks, stock markets, and similar institutions allow a country’s funds to be put to their best use. When such institutions do not exist or when they do not function efficiently, productivity is reduced.

How Are Productivity and Growth Related?

Economic growth is a measure of change in production. It does not consider how much effort or how many resources it took to produce that quantity of production. Productivity, on the other hand, is a measure of efficiency. It reflects the amount of effort and resources it took to produce a certain quantity.

A country could experience economic growth—as measured by real GDP—without increasing its productivity. Such growth would be tied to an increase in the quantity of natural resources, labor, capital, or technology. If the productivity of a country increases, its real GDP can grow without increasing the quantity of inputs.

As shown in Figure 12.15, productivity in the United States grew at a steady pace from 1950 to 2000. Among other things, a better educated labor force and advances in information technology contributed to the increase. The dips in the graph represent productivity setbacks, such as tighter financial markets during recessions.

APPLICATION Drawing Conclusions

C. Some countries have limited natural resources but high economic growth. Does this prove that worldwide economic growth is unlimited by natural resources? Why or why not?
In the late 1700s, many European thinkers and writers predicted a future of peace and harmony in which poverty and hunger would be eliminated. Discussing humanity’s future with his father led Thomas Robert Malthus to question whether the prevailing view was perhaps too rosy. Malthus saw a problem that others had overlooked, namely, that the world’s population seemed likely to outgrow the available supply of food. He published his ideas in 1798 in “An Essay on the Principle of Population as It Affects the Future Improvement of Society.”

**A Natural Limit to Economic Growth?**

Malthus’s essay argued that human population would increase geometrically—that is, it would double—every 25 years. Malthus also estimated that food production would only increase arithmetically—that is, by the same amount each time—over that time period. Figure 12.16 uses hypothetical numbers to illustrate the problem. As time went on, agriculture would produce less food per person, and millions would be thrown into poverty and starvation.

“An Essay on the Principle of Population” caused a tremendous backlash. People could not accept that the rosy future they had imagined might not come to pass. Malthus and his essay were widely attacked and criticized—but no one could ignore his argument.

Malthus’s estimates turned out to be flawed. Human population increased at a slower pace than he predicted. World population was about 1 billion in 1800, but it took until 1930 to reach 2 billion. Agricultural productivity rose dramatically with the introduction of mechanized farming and advances in fertilization and pest control. Although world population accelerated around 1950, reaching about 6.5 billion by 2005, agricultural production kept pace with the growing population.

**APPLICATION Applying Economic Concepts**

D. How is Malthus’s population problem an example of the problem of scarcity?
SECTION 3  Assessment

REVIEWING KEY CONCEPTS

1. Explain the differences between the terms in each of these pairs.
   a. economic growth
      real GDP per capita
   b. capital deepening
      labor input

2. Name the key measurement of economic growth.

3. What four factors drive economic growth?

4. How are productivity and growth related?

5. Briefly explain the problem Malthus identified.

6. Using Your Notes  Write a persuasive paragraph arguing one side or the other of economic growth possibilities. Refer to your completed summary chart.

   Use the Graphic Organizer at Interactive Review @ ClassZone.com

CRITICAL THINKING

7. Solving Economic Problems  In 2000, the world’s population was about 6 billion, and about 800 million of those people did not have enough to eat. By 2050, the world’s population is expected to grow to about 9 billion. What steps should we take now to avoid having more than 1 billion people without enough to eat by 2050? Employ the ideas you learned about in this section in formulating your solution.

8. Explaining an Economic Concept  Why is real GDP per capita a useful measure? Why couldn’t real GDP or GDP per capita be used for the same purpose?

9. Analyzing Cause and Effect  Globalization opens international boundaries to companies, creating markets that stretch around the world. What role might global competition play in the development of innovations?

10. Challenge  Going to school is your job. Your product is increasing your knowledge, and your grades are the main measure of this. Increasing your productivity would result in better grades—and more free time. Adapt the factors that contribute to economic productivity to explain how you might increase your productivity as a student.

A busy factory is one route to economic growth.

Stimulating Economic Growth  Government policies affect economic growth. Some policies have immediate effects that last for a short time. Other policies take longer to show results but have lasting impact.

Create a Healthy Economy  Reflecting on what you learned in this section, consider the following possible government actions.

- open a protected wilderness area for coal mining
- increase funding for scholarships for low-income students
- provide tax breaks for companies purchasing new equipment
- strengthen laws protecting the rights of inventors

Explain how each potential action might lead to economic growth.

Challenge  Estimate the costs and the benefits of each action. Which actions would have the most lasting positive effect on the economy?
Poland: Economic Freedom and Economic Growth

**Background**
Communists ruled Poland and controlled its economy from 1948 to 1989. After holding its first free elections in 1990, Poland made rapid progress toward full democracy and a free market economy. Economic reforms included ending government price controls, privatizing industries formerly controlled by the government, and entering the international marketplace. As Poland moved away from government control of the economy, it experienced a surge in economic growth—outdistancing many other former Communist countries in eastern and central Europe. In 2004, Poland became a member of the European Union, further increasing its economic potential.

**What's the issue?** How successful is Poland’s economy? Read these documents to learn about the challenges and rewards of the country’s economic transition.

**Wroclaw, Poland: Europe’s Next Appliance Capital?**

**Appliance Manufacturers Pour into Southwest Poland**

Money and companies are pouring in—not just the prestige nameplates like Bombardier, Siemens, Whirlpool, Toyota, and Volvo, but also the network of suppliers that inevitably follows them. At first, most of the new jobs were of the semi-skilled variety. Now they have been followed by design and engineering work that aims to tap into the largest concentration of university students in Eastern Europe.

“Everyone is coming, and they are coming very fast,” reports Josu Ugarte . . . who heads the appliance manufacturing operations here of Mondragon, the giant Spanish industrial cooperative. He predicts, confidently, that the region around Wroclaw will soon surpass Northern Italy as Europe’s appliance capital.

The secret isn’t just lower wages. It’s also the attitude of workers who take pride and are willing to do what is necessary to succeed, even if it means outsourcing parts production or working on weekends or altering vacation schedules.

**Source:** “Europe’s Capitalism Curtain” WashingtonPost.com July 23, 2004

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**Thinking Economically**
How has Poland’s human capital contributed to the country’s economic growth?
B. Political Cartoon

Poland’s farmers were sceptical about the benefits of European Union membership. This cartoon reflects their change of heart as agricultural exports increased and they received new subsidies from the European Union.

Thinking Economically  Does the cartoon emphasize the free market benefits of the European Union or other benefits?

C. Magazine Article

Joining the European Union brought tremendous growth to Poland’s economy. This article explains some of the elements that led to the success.

Reaping the European Union Harvest

How the new central European members learnt to stop worrying and love the European Union

After grumbling furiously about dangers to their sovereignty and their social values when they joined the European Union in May, Poles are discovering themselves now to be among the Union’s most loyal citizens. Some three-quarters say they are happy with EU membership—and no wonder. In its first eight months of membership Poland got some €2.5 billion (€ is the euro, the currency of the European Union) ($3.4 billion) from the EU budget, or roughly twice what it paid in, according to the newspaper Rzeczpospolita. Rural incomes have risen by one-third for small farmers and two-thirds for big ones, reversing eight years of stagnation and decline, thanks to munificent EU subsidies and an influx of foreign buyers offering high prices for Polish meat and fruit.

Poland’s total exports rose by more than 30% in the first nine months of 2004, helped by the abolition of customs formalities. EU rules have opened the skies to budget airlines, boosting tourist numbers by 20% last year. Higher-than-expected tax revenues have meant lower-than-expected budget deficits. . . .

Source: The Economist, January 8, 2005

Thinking Economically  According to the document, how has membership in the EU helped Poland’s economic growth?

THINKING ECONOMICALLY  Synthesizing

1. Which economic measurements and indicators are evident in documents A and C? Explain what they convey about the strengths and weaknesses of Poland’s economy.
2. What factors have driven Poland’s economic growth?
3. Compare documents A and C, written about six months apart. What continued economic trends and new economic strengths do they describe?
Complete the following activity either on your own paper or online at ClassZone.com

Choose the key concept that best completes the sentence. Not all key concepts will be used.

1. Gross domestic product (GDP), the market value of all goods and services produced in a nation, is one of the key measurements used in 2. national income (NI) is especially useful because it gives the market value of all goods and services corrected for price level changes. Another very useful measurement is 3. disposable personal income (DPI), which shows the actual amount of money people have to spend.

   The economy goes through regular changes called the 4. business cycle. Economists watch 5. coincident indicators, such as building permits issued and stock prices, to predict changes in the economy. Low points in the economy are usually self-correcting, but in times of a 6. recession, such as the one that happened in the 1930s, government intervention may be needed.

   Several factors influence 7. economic growth, including an increase in capital, 8. capital deepening, an increase in the ratio between capital and labor, increases productivity, helping the economy grow. Economists use 9. per capita real GDP, real GDP divided by whole population, to distinguish an increase in population from a higher level of economic output.

10. Real GDP divided by whole population, known as 9. per capita GDP, per capita GNP, or per capita real GDP, is commonly used to measure the economic output per person.
9. Creating Graphs  Copy the blank graph onto your own paper. Then use the data in the table to create a line graph showing the percent change in U.S. real gross domestic product from 1999 through 2003. Use SMARTGapher @ ClassZone.com to complete this activity.

**FIGURE 12.18 PERCENT CHANGE IN REAL GDP FROM PRECEDING PERIOD**

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>3.4</td>
<td>3.4</td>
<td>4.8</td>
<td>7.3</td>
</tr>
<tr>
<td>2000</td>
<td>1.0</td>
<td>6.4</td>
<td>−0.5</td>
<td>2.1</td>
</tr>
<tr>
<td>2001</td>
<td>−0.5</td>
<td>1.2</td>
<td>−1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>2002</td>
<td>2.7</td>
<td>2.2</td>
<td>2.4</td>
<td>0.2</td>
</tr>
<tr>
<td>2003</td>
<td>1.7</td>
<td>3.7</td>
<td>7.2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

10. Analyzing and Interpreting Data  Which year had the highest growth? The lowest?

11. Analyzing Cause and Effect  The government enacted tax cuts and issued child tax credit refunds in 2003. What component of GDP would likely have increased because of these?

12. Distinguishing Fact from Opinion  Does the graph support or counter the idea that the September 11, 2001 terrorist attacks caused a recession?

13. Challenge  How could GDP grow by 5 percent a year but leave the economy no better off—or even worse off? Give two different explanations.

**Surveying Consumer Confidence**
The Consumer Confidence Survey is one poll used to determine consumer expectations. Another is the ABC/Washington Post Consumer Comfort Index, which makes 1,000 phone calls to adults each month and asks the following questions:

- National Economy: “Would you describe the state of the nation’s economy these days as excellent, good, not so good, or poor?”
- Personal Finances: “Would you describe the state of your own personal finances these days as excellent, good, not so good, or poor?”
- Buying Climate: “Considering the cost of things today and your own personal finances, would you say now is an excellent time, a good time, a not so good time, or a poor time to buy the things you want and need?”

To understand the consumer comfort index better, take a survey of your class.

**Step 1.** Break into five small groups and discuss each of the questions. The point is to share your thoughts, not to debate who is right or wrong.

**Step 2.** Return to your desk and write down your answers to each of the questions anonymously.

**Step 3.** Collect the anonymous answers from the whole class. Have one person tabulate the answers to each question on the board.

**Step 4.** Now calculate the consumer confidence of your class. For each question, add up the number of positive responses (either “excellent” or “good”). Then subtract the number of negative responses (either “not so good” or “poor”). Divide by the total number of students and multiply by 100.

Add the result from all three questions together, and then divide by three. That will yield an overall comfort level. A level of 100 would mean everyone is satisfied with everything. A level of −100 would mean that everyone felt negatively about everything.

**Step 5.** Discuss the result. Does it seem to accurately reflect the mood of the class? What would happen to the nation’s GDP if all consumers felt as you do?
Economic Challenges
The national economy faces many challenges. Economics can help us understand and cope with these challenges.
CONCEPT REVIEW

Business cycle is the series of growing and shrinking periods of economic activity, measured by increases or decreases in real gross domestic product.

CHAPTER 13 KEY CONCEPT

Unemployment has a variety of causes. Some level of unemployment is expected, even when an economy is healthy.

WHY THE CONCEPT MATTERS

As the nation’s economy goes through business cycles, it will face the twin problems of unemployment and inflation. You may find yourself unemployed at some point during your working years, if only for a short period. For some people, persistent unemployment leads to poverty. During periods of inflation, you may have a job but your wages may buy less.
Unemployment in Today’s Economy

OBJECTIVES

In Section 1, you will

• explain how economists measure unemployment
• identify the different types of unemployment
• discuss the impact that unemployment has on the economy and on individuals

KEY TERMS

unemployment rate, p. 382
underemployed, p. 383
full employment, p. 383
frictional unemployment, p. 384
seasonal unemployment, p. 384
structural unemployment, p. 384
cyclical unemployment, p. 384

TAKING NOTES

As you read Section 1, complete a cluster diagram like the one below to record and organize what you learn about unemployment. Use the Graphic Organizer at Interactive Review @ ClassZone.com

Measuring Unemployment

KEY CONCEPTS

During the economic downturn that started in 2007, companies in the United States laid off millions of workers. The impact of such decisions is far-reaching. Because the unemployed cannot buy as many goods and services as they did when they had a paycheck, other companies lose business. Some of those companies might lose so much revenue that they might also need to lay off workers. If businesses across the country decide to stop hiring or to cut back, the unemployment rate rises. The unemployment rate is the percentage of the labor force that is jobless and actively looking for work.

The Unemployment Rate

The civilian labor force, as you learned in Chapter 9, is made up of people over the age of 16 who are employed or actively looking and available for work. It does not include people in the military or those in schools, prisons, or other institutions. To determine the unemployment rate, the U.S. Bureau of Labor Statistics (BLS) surveys the labor...
force in 60,000 households each month. Workers over the age of 16 who are not working but are able to work and who have looked for work sometime during the previous four weeks are considered unemployed. The BLS then divides the number of unemployed persons by the total number of workers in the civilian labor force to arrive at the unemployment rate. While very useful, the unemployment rate does not account for discouraged workers who have stopped looking for work. Nor does it count the underemployed, those who work part-time when they want full-time employment or those who work at a job below their skill level. These include recently laid-off workers who may be in a temporary, lower-paying job.

**Full Employment**

Despite its name, full employment does not mean a zero unemployment rate. Instead, it means a level of unemployment in which none of the unemployment is caused by decreased economic activity. Even in a healthy economy there is always some level of unemployment. Sometimes people become unemployed when they relocate or when they leave one job to try to find another job that suits them better. Sometimes the available jobs do not match up with the skills of the available workers. In other words, some amount of unemployment is inevitable.

Economists generally agree that an unemployment rate of four to six percent indicates full employment in the United States. In other countries, with different labor markets and economic policies, full employment may occur at higher or lower rates of unemployment.

**APPLICATION Explaining an Economic Concept**

A. Explain why the unemployment rate is based on a country’s civilian labor force, not its entire population.
Types of Unemployment

**KEY CONCEPTS**

Economists pay attention not only to the unemployment statistics, but also to the reasons for unemployment. Economists recognize four types of unemployment:

- **Frictional unemployment**, temporary unemployment experienced by people changing jobs
- **Seasonal unemployment**, unemployment linked to seasonal work
- **Structural unemployment**, a situation where jobs exist but workers looking for work do not have the necessary skills for these jobs
- **Cyclical unemployment**, unemployment caused by a part of the business cycle with decreased economic activity

**TYPE 1 Frictional Unemployment**

Frictional unemployment refers to the temporary unemployment of workers moving from one job to another. The frictionally unemployed might include a parent who has spent time at home raising children and decides to move back into the work force; a magazine designer who leaves his job to seek work as a designer at a book publisher; or a recent college graduate who is looking for her first full-time job. Frictional unemployment is a reflection of workers’ freedom to find the work best suited for them at the highest possible wage. Economists consider frictional unemployment normal and not a threat to economic stability.

**TYPE 2 Seasonal Unemployment**

Demand for some jobs changes dramatically from season to season, resulting in seasonal unemployment. Demand for construction workers, for example, typically falls in the winter months when construction activities are more difficult. Tourism peaks at certain times of the year, and different regions have different tourist seasons. Migrant farm workers, who move from one area to another following the growing schedules of the crops, are hard hit by seasonal unemployment. The winter months are especially slow, resulting in economic hardship for many migrant families.

**TYPE 3 Structural Unemployment**

Structural unemployment results when the available jobs do not match up well with the skills and experience of the available workers. A dynamic economy will often create structural unemployment as businesses become more efficient and require fewer workers to create the same amount of output. There are a number of possible triggers for structural unemployment. New technology can replace human workers or require workers to retrain. New industries requiring specialized education can leave less well-educated workers...
Facing Economic Challenges

out of work. A change in consumer demand—from compact discs to computer music files, for example—can shift the type of workers needed. Offshore outsourcing, when jobs once held by Americans are staffed overseas, is another cause of structural unemployment.

TYPE 4 Cyclical Unemployment

Cyclical unemployment results when the economy hits a low point in the business cycle and employers decide to lay off workers. Workers who lose their jobs during a recession can have trouble finding new jobs because the economy as a whole is scaling back, and the demand for labor declines. When the economy picks up again, many workers are again able to find jobs.

The duration of unemployment in these four types ranges widely, but the average duration of unemployment is relatively short. More than a third of the unemployed are out of work for five weeks or less.

APPLICATION Making Inferences

B. If you owned a clothing factory, how would a high rate of unemployment affect your business?

A GLOBAL PERSPECTIVE

Offshore Outsourcing: Scourge or Boon?

Many American workers fear losing their jobs to offshore outsourcing—the contracting of work to suppliers in other countries. But the likelihood of offshore outsourcing varies widely from one occupation to the next. According to a report issued by the McKinsey Global Institute in 2005, about 11 percent of all service jobs in the United States have the potential to be outsourced to another country. Jobs in information technology, engineering, and accounting are much more likely to be outsourced than jobs in health care, retail sales, and other fields that require direct personal interaction.

The offshore outsourcing trend has created some structural unemployment, as laid-off workers seek new jobs. But ultimately, it should make the U.S. economy more efficient. The firms that save money by outsourcing will be more competitive. As these businesses grow, they will hire more U.S. workers.

For some U.S. workers, outsourcing may offer unique opportunities. India has been so successful in securing business outsourced by other countries that it has a shortage of qualified labor. Because many jobs outsourced to India require workers to be fluent in English or European languages, one study predicts that 120,000 Europeans, Americans, and Australians will be working in India by 2010.
The Impact of Unemployment

**KEY CONCEPTS**

Although some unemployment is unavoidable, excessive or persistent unemployment hurts the economy in several ways. It reduces efficiency; it hurts the least economically secure; and it damages workers’ self-confidence.

**Efficiency** Unemployment is inefficient. It wastes human resources, one of the key factors of economic growth.

**Inequality** Unemployment does not follow equal opportunity rules. In an economic slowdown, those with the least experience lose their jobs first—usually minorities and the young (see the graphs below). Also, with fewer jobs available, people on the lower rungs of the employment ladder have less opportunity to advance.

**Discouraged Workers** People who are unemployed—or underemployed—for long periods of time may begin to lose faith in their abilities to get a job that suits their skills. Potentially productive workers may give up their search for work. If they are underemployed, they may not be motivated to do their best work.

**ANALYZE GRAPHS**

1. Which group, either age or race, has the highest rate of unemployment?
2. What happens to the unemployment rate as people get older?
3. If the majority of people aged 65 and older are retired, why is the unemployment rate for that group so low?

**APPLICATION Writing About Economics**

C. In 1889, Jane Addams founded the Hull House Association in Chicago to help newly arrived immigrants adjust to the challenges of city life. In 1910, she wrote that “of all the aspects of social misery nothing is so heartbreaking as unemployment.” Write a paragraph explaining the impact of unemployment on immigrants.
SECTION 1  Assessment

REVIEWING KEY CONCEPTS

1. Explain the relationship between the terms in each of these pairs.
   a. frictional unemployment  structural unemployment
   b. seasonal unemployment  cyclical unemployment

2. Explain how the unemployment rate is calculated.

3. Why are economists interested in the unemployment rate?

4. Name a job that might be affected by structural unemployment. Explain why it might be affected.

5. What is full employment?

6. Using Your Notes  Write a brief summary of this section, covering measuring unemployment, types of unemployment, and the impact of unemployment. Refer to your completed cluster diagram. Use the Graphic Organizer at Interactive Review @ ClassZone.com

CRITICAL THINKING

7. Solving Economic Problems  Unemployment insurance provides money to workers who have lost their jobs through no fault of their own. In most states, the insurance is funded entirely by employers. What else might business and government do to help unemployed workers?

8. Analyzing Cause and Effect  In June 2005, claims for unemployment insurance in Illinois from construction workers made up about 14 percent of all claims. In December 2005, they made up about 21 percent. Why might more construction workers file for unemployment benefits in December than in June? What type of unemployment best explains the difference?

9. Applying Economic Concepts  Give specific examples from the Great Depression of the 1930s of ways in which the widespread unemployment (1) affected efficiency, (2) was distributed unequally, and (3) eroded self-esteem.

10. Challenge  Think about the type of career you hope to have when you are finished with your education. Do you think it is more likely or less likely than others to be affected by each of the various types of unemployment? Explain each of your answers.

Identifying Types of Unemployment

Categorize Economic Information  Decide which of the four types of unemployment each scenario describes.

- Because of reduced demand, an appliance company temporarily closes one of its factories and lays off workers.
- In September, a part-time student at the University of Central Florida in Orlando loses his job at a theme park.
- A newspaper journalist leaves her job to make a switch into television journalism. She has been looking for a new job for several months.
- A local travel agency has to close down because of the widespread availability of direct online booking options.

Challenge  Young people are two to three times more likely than older people to be unemployed. Why is this?
In Section 2, you will
• explain how economists measure poverty
• discuss the causes of poverty
• describe how economists measure income inequality
• identify what antipoverty programs are available

**KEY TERMS**
- poverty, p. 388
- poverty threshold, p. 388
- poverty rate, p. 389
- income distribution, p. 390
- income inequality, p. 390
- Lorenz curve, p. 391
- welfare, p. 392
- workfare, p. 393

**TAKING NOTES**
As you read Section 2, complete a summary chart like the one below to pull together the most important ideas about poverty and income distribution. Use the Graphic Organizer at Interactive Review @ ClassZone.com

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**What Is Poverty?**

**KEY CONCEPTS**

Persistent unemployment sometimes leads to poverty, a situation in which a person lacks the income and resources to achieve a minimum standard of living. This minimum standard varies from country to country because different countries have different ways of life. Someone who herds sheep and lives in a hut would probably be considered poor in the United States. But such a person might be thought to have a comfortable life in some other countries. Because of such disparities, there is no universal standard for what constitutes poverty.

The U.S. government has established its own standard for poverty based on income levels. This poverty threshold is the official minimum income needed for the basic necessities of life in the United States.

**The Poverty Threshold**

The poverty threshold, also called the poverty line, is the amount of income the government has determined to be necessary for meeting basic expenses. People with incomes below that threshold are considered to live in poverty. The threshold, first formulated in the early 1960s, was calculated by finding the cost of nutritionally sound food and then multiplying by three, on the assumption that food costs are about a third of a person’s expenses.

The threshold differs according to the size of the household and is adjusted annually to reflect changing prices. In 2005, the poverty threshold for a family of four in the United States was about $20,000. That same year, the median income for a family of four was over $65,000.
The Poverty Rate

The poverty rate is the percentage of people living in households that have incomes below the poverty threshold. Unlike the unemployment rate, the poverty rate is based on the population as a whole. Through census information, the poverty rate can be estimated for individuals, households, or specific segments of the population, such as African-American children or single-parent households.

The overall poverty rate in the United States declined between 1993 and 2000 to a low of 11.3 percent. It began to rise in 2000 and by 2004 had climbed to 12.7 percent, with 37 million people living below the poverty line. (See Figure 13.4.)

Poverty, like unemployment, does not hit all sectors of society equally. Children are especially at risk. Children made up more than half of the 1.3 million increase in the number of people living in poverty between 2002 and 2003. The number of families below the poverty line that are headed by a single mother also rose. Minorities and families that live in either an inner city or a rural area tend to have higher than average poverty rates. While the numbers tell the statistical story of poverty, only personal voices can convey the toll of being poor. James Baldwin, an African-American writer born in poverty, wrote that “anyone who has ever struggled with poverty knows how extremely expensive it is to be poor.”

**Figure 13.4** U.S. Poverty Rate, 1959–2004

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Source: U.S. Census Bureau

**ANALYZE GRAPHS**

1. From 1959 to 2004, when was the poverty rate the highest? When was it lowest?
2. What decade saw the largest drop in the rate of poverty?

**APPLICATION Drawing Conclusions**

A. Why is the poverty rate based on the entire population, while the unemployment rate is based on the civilian work force?
The Problem of Poverty

KEY CONCEPTS

Across the globe, about half of the world’s 6 billion people live in poverty. In the United States, one of the world’s wealthiest countries, almost 40 million people live below the poverty level. Even good economic times, such as the boom that the United States experienced in the 1990s, do little to move large numbers of people out of poverty. Why is an adequate income out of reach for so many people?

Factors Affecting Poverty

Four major factors have the strongest influence on who lives in poverty in the United States: education, discrimination, demography, and changes in the labor force.

Education  As you learned in Chapter 9, usually there is a direct relationship between level of education and income: the higher the level of education, the higher the income. In the United States, the poverty rate of people who did not complete high school is 12 times higher than that of people with a college education.

Discrimination  White males tend to have higher incomes than racial minorities and women, even when there are no differences in education or experience. Certain groups sometimes face wage discrimination or occupational segregation and may find it difficult to move beyond low-paying jobs. Government initiatives, as well as the pressures of the competitive marketplace, have helped to reduce job discrimination.

Demographic Trends  In the 1950s, about one-fourth of all marriages ended in divorce. Now, almost half of all marriages end in divorce. Over the same period, births to unmarried mothers jumped from about 5 percent of all births to over 30 percent. Such demographic trends lead to higher poverty rates because single-parent families are more likely to have economic problems than two-parent families.

Changes in the Labor Force  The shift in the labor force from mainly manufacturing to mainly service industries is one of the changes that affects the distribution of poverty. When manufacturing jobs were plentiful, even relatively low-skilled workers were able to earn a good wage. As the jobs shifted from manufacturing to service, the wages did not always follow. Workers in many service jobs, such as fast-food clerks, tend to earn lower wages than similarly skilled workers in manufacturing.

Income Distribution

The United States has one of the highest median family incomes in the world, yet millions of Americans live below the poverty line. This disparity is reflected in the country’s income distribution, the way income is divided among people in a nation.

All countries have some degree of income inequality, an unequal distribution of income. Unless everyone earns the same amount, there will always be a difference between the incomes of the wealthiest citizens and those of the poorest. Compared to other advanced nations, the United States has relatively high income inequality. However, less advanced countries tend to have the most extreme differences between what the rich earn and what the poor earn.
A Lorenz curve graphically illustrates the degree of income inequality in a nation. The Lorenz curve in Figure 13.5, for example, plots income distribution in the United States. If income were distributed equally, then 20 percent of the population would receive 20 percent of the income, 40 percent would receive 40 percent, and so on. That distribution would be represented with a diagonal line.

However, income is not equally divided. The Lorenz curve in Figure 13.5 shows that the lowest 20 percent of the population (Group 1) receives only about 3.4 percent of the nation’s total income. The lowest 40 percent (Group 2)—which includes the lowest 20 percent plus the next 20 percent—receive about 12.1 percent of the nation’s total income. The more the Lorenz curve dips away from the diagonal line of equality, the greater the level of income inequality.

In the United States, the income gap between the lower 80 percent of the population and the top 20 percent grew throughout the late 1900s. In 1970, the richest 20 percent of Americans earned on average 9 times more than the poorest. By 1997, they were earning 15 times more. Households are not stuck in one group. When people gain experience and education, their incomes tend to increase. When they retire or make poor economic decisions, their incomes decrease.

**APPLICATION Applying Economic Concepts**

B. In 2004, the richest 20 percent of households in the United States received about 50 percent of the nation’s income. Based on that proportion, if $100 was shared among five people, how much would the richest one receive? How much would each of the other four get if they shared the rest equally?
Antipoverty Programs

KEY CONCEPTS

In 1964, in his first State of the Union Address, President Lyndon Johnson pledged: “This administration today, here and now, declares unconditional war on poverty in America.” Johnson’s antipoverty programs were among many that the U.S. government has tried in an effort to close the income gap. These programs are often referred to as welfare, government economic and social programs that provide assistance to the needy. Some of these programs, however, have been criticized for wasting government funds and for harming rather than helping the recipients. During the 1980s and 1990s, the government changed its approach, and it now uses tax breaks, grants, job training, and other “self-help” initiatives in addition to cash benefits.

Programs for Low-Income Households

The national food stamp program, which was established by the Food Stamp Act of 1964, helps ensure that no one will go hungry. Qualifying individuals and families receive electronic benefit transfers, which have replaced the paper food stamps that had been used originally. Recipients are given a card tied to an account into which the government makes monthly deposits of food benefits. The card can be used only to purchase food at grocery stores. Since 1975, the number of food stamp recipients has fluctuated from year to year from about 16 million to about 27 million. In 2005, almost 26 million people participated in the program.

The Medicaid program is another antipoverty measure for low-income households. Medicaid offers health care for the poor and is funded by both the federal and state governments. The expense to each state is often as much as 25 percent of the state budget. Medicaid is the only health care coverage for about 40 million Americans, nearly half of them children.

Another antipoverty program is the earned-income tax credit. This program provides the working poor a refund of payroll taxes and other taxes deducted from their paychecks. About 21 million people received these credits in 2004. One benefit of the program is that the money refunded to the recipients generally gets spent in their own communities. This spending helps to boost the economies of poor neighborhoods.

General Programs

The U.S. government’s Social Security program—which pays benefits to retirees, survivors, and the disabled—is the largest government program in the world. In the year 2004 alone, it paid out $500 billion, and that amount is expected to increase as people born during the baby boom after World War II reach retirement age. It was established in 1935 by the Social Security Act.
The Social Security program is funded through a special payroll tax. At retirement, all workers—rich and poor alike—are entitled to monthly checks to help with living expenses. Another payroll tax helps to fund Medicare, a government health insurance program for seniors. Medicare became part of the Social Security program in 1965. These benefits have been key in reducing the number of older Americans in poverty. From 1960 to 1995, the poverty rate of those aged 65 and over fell from about 35 percent to about 10 percent.

The Social Security Act also established a system of unemployment insurance administered through state governments. People who lose their jobs through no fault of their own are eligible to receive income while they look for work. Each state administers its own unemployment insurance program. Most of the programs are funded by taxes paid by employers, but in a few states employees contribute too. These benefits, which usually last no more than 26 weeks, help people avoid financial problems while they seek new employment.

Other Programs

Other antipoverty programs supplement the largest programs. One is the Community Services Block Grant program, which provides blocks of federal money to local communities to address such issues as employment, education, and housing. Job training is another. One such program provides grants to community colleges to develop training for high-tech, high-growth jobs. Another way to provide jobs for the unemployed and at the same time boost the economy of a struggling neighborhood is through Empowerment Zones. The government tries to attract businesses to these specially designated neighborhoods by not charging them certain taxes. Businesses that operate in Empowerment Zones provide needed services and offer employment opportunities to area residents.

In 1996, the federal welfare program underwent substantial revision in a series of changes often referred to as welfare-to-work. These changes included new incentives for working, which older welfare programs often did not provide. Workfare, for example, is a program that requires welfare recipients to do some kind of work in return for their benefits. Their work provides a useful service and also helps prepare the workers for future jobs. Direct financial aid, now called Temporary Assistance for Needy Families (TANF), now has a limit of five years.

APPLICATION Explaining an Economic Concept

C. In terms of government spending, what is a fundamental difference between the food stamp program and the Empowerment Zone initiative?
Peruvian economist Hernando de Soto has attacked the problem of poverty by redefining it: “The poor . . . are essentially the biggest source of wealth within [a] country.” According to de Soto, the poor have numerous assets—but in most countries they lack the basic property rights they need to grow economically. “They have houses but not titles; crops, but not deeds; businesses, but not statutes of incorporation.” In short, their wealth is not protected by the rule of law.

**Prosperity Through Property Rights**

As a young man, de Soto was struck by the sharp contrast between the poverty in Peru’s shantytowns and the energetic industry of the people who lived there. These thoughts led him, in time, to establish the Institute for Liberty and Democracy (ILD), which addresses this contrast in Peru and throughout the world.

De Soto estimates that 4 billion of the world’s 6 billion people are shut out of the formal economy. Antiquated and needlessly complex laws make it difficult for these people to gain legal ownership of their homes and businesses, assets that are recognized as theirs in the informal economy.

De Soto estimates that the assets of the world’s poor add up to about $10 trillion. He argues that until legal systems change to accommodate the poor, they will continue to prefer to operate in the informal economy—at the cost of lost economic opportunity for everyone. If the resources of the poor could be brought into the formal economy and developed, the wealth they would create could lift struggling nations from poverty into prosperity.

De Soto’s critics point to his non-scholarly approach, but he says that he purposely “closed the books and opened his ears” as he traveled throughout the world listening to the voices of the poor. Former U.S. President Bill Clinton echoed the sentiments of many world leaders when he described de Soto’s ILD as “the most promising anti-poverty initiative in the world.”

**APPLICATION Writing About Economics**

D. De Soto said: “Capitalism . . . allowed the people that came from humble origins of the world to have economic rights the way only nobility . . . had it before. So capitalism is essentially a tool for poor people to prosper.” Do you agree with that explanation? Write a paragraph to explain your answer.
SECTION 2 Assessment

REVIEWING KEY CONCEPTS

1. Explain the relationship between the terms in each of these pairs.
   a. poverty threshold
   b. income distribution
   c. welfare
      poverty rate
      income inequality
      workfare

2. Why is it difficult to determine a universal poverty threshold?

3. What groups are especially hard hit by poverty?

4. What four factors help explain the distribution of poverty?

5. What does the Lorenz curve show?

6. Using Your Notes  Describe five different antipoverty programs and the problems each combats. Refer to your completed summary chart.
   Use the Graphic Organizer at Interactive Review @ ClassZone.com

CRITICAL THINKING

7. Making Inferences and Drawing Conclusions  A number of antipoverty programs are targeted specifically at children:
   • State Children’s Health Insurance Program (SCHIP) provides health insurance to low income children who do not qualify for Medicaid and have no health insurance
   • National School Lunch Program provides free or reduced price lunches to eligible children
   • School Breakfast Program provides cash to schools for offering breakfasts to more than 8 million children nationally
   What are the economic benefits of antipoverty programs aimed at children?

8. Solving Economic Problems  Antipoverty programs in the United States are least effective for immigrant families and for non-elderly people without children. Why might this be so?

9. Analyzing Cause and Effect  How does the earned income tax credit aid both the working poor and their communities?

10. Challenge  In 2005, the poverty threshold for a family of four was an annual income of just over $19,800. Based on this income, devise a monthly budget for a family of four. Assume that no taxes or payroll deductions will reduce the family’s income. Also assume that the family lives in an apartment that costs $700 per month. Provide a detailed account of your estimated allowances for food, clothing, and other expenses.

ECONOMICS IN PRACTICE

Food aid from the United States and other nations assists those in extreme poverty.

Understanding World Poverty

Different parts of the world have different levels of poverty.

<table>
<thead>
<tr>
<th>Region</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>75</td>
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<tr>
<td>South-Central Asia</td>
<td>75</td>
</tr>
<tr>
<td>World</td>
<td>53</td>
</tr>
<tr>
<td>China</td>
<td>47</td>
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<tr>
<td>North Africa</td>
<td>29</td>
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<tr>
<td>Latin America / Caribbean</td>
<td>26</td>
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<td>Eastern Europe</td>
<td>14</td>
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Source: World Bank, 2004 data

Analyze and Interpret Data  Use the information in the table to answer these questions.

1. The table uses a poverty threshold of living on less than $2 a day. Why doesn’t North America appear?

2. China has a population of about 1.3 billion people. About how many of them, in millions, live in poverty?

Challenge  Do the same factors that affect poverty in the United States apply to the rest of the world?
In 2006, militants attacked many of Nigeria’s oil installations, demanding that more of the country’s oil wealth be shared with the Nigerian people. Before the attacks, Nigeria produced about 2.5 million barrels of oil a day, and the country was the fifth largest source of oil imported by the United States. On news of the attacks, the price of oil rose by almost 20 percent. Some economists predicted that if oil stayed at those price levels, manufacturers might raise the prices of their products to compensate for higher fuel costs. They suggested that the high oil prices might ultimately lead to inflation, a sustained rise in the level of prices generally or a sustained fall in the purchasing power of money. Economists have several instruments for measuring inflation.

**Consumer Price Index**

One tool for gauging inflation is the consumer price index (CPI), a measure of changes in the prices of goods and services commonly purchased by consumers. Creating the index requires many different steps, but the following describes the basic process. The U.S. government surveys thousands of people across the country to find out what goods and services they buy on a regular basis. The government then creates a “market basket” of about 400 different...
goods and services purchased by a typical household. The basket is adjusted to account for how much of a household’s budget goes to purchase each type of item. For example, families tend to spend more on food than on lawn care, so the market basket is balanced to reflect this.

Each month, government workers research the current prices of the items in the market basket. What consumers spend to fill the basket can then be compared to prices in the reference base, which reflects the level of prices in the three years 1982 to 1984. Those numbers are given the value of 100. See the Connect to Math sidebar for more information.

**Producer Price Index**

The CPI shows the level of inflation experienced by consumers, but producers also experience inflation. The tool that gauges that kind of inflation is the producer price index (PPI), a measure of changes in wholesale prices. The PPI is constructed in roughly the same way as the CPI, but it reflects the prices producers receive for their goods rather than the prices consumers pay. The difference between consumer prices and producer prices lies in all the additional fees consumers pay, such as sales taxes or shipping charges. Like the CPI, the PPI is tied to a reference base of producer prices. More than 10,000 PPIs for individual products and groups of products are available. The indices are grouped either by stage of production (finished goods, intermediate goods, and raw materials, for example) or by industry. Index changes from period to period are calculated in the same general way as the CPI.

Because producers tend to encounter inflation before consumers, PPI tends to lead CPI as an indicator of inflation. Economists use CPI and PPI to calculate the inflation rate, the rate of change in prices over a set period of time.

**QUICK REFERENCE**

**Producer price index (PPI)** is a measure of changes in wholesale prices.

**Inflation rate** is the rate of change in prices over a set period of time.
Types of Inflation

The different types of inflation are defined according to the degree or level of the inflation rate. Rates below 1 percent are negligible, and those between 1 and 3 percent are moderate. If a moderate rate continues over a period of time, the result is creeping inflation. A rapid increase in price level is known as galloping inflation. If galloping inflation gets out of hand, the result is hyperinflation—a rapid, uncontrolled rate of inflation in excess of 50 percent per month. One of the most dramatic episodes of hyperinflation happened in Germany in 1922 and 1923. At the height of the crisis, prices rose at a rate of about 322 percent per month. Deflation, a decrease in the general price level, happens more rarely. The Great Depression of the 1930s in the United States was marked by deflation.

APPLICATION Applying Economic Concepts

A. If the price of milk goes up, is that inflation? Why or why not?
What Causes Inflation?

**KEY CONCEPTS**

Economists generally distinguish between two kinds of inflation, each with a different cause. When the inflationary forces are on the demand side of the economy, the result is **demand-pull inflation**, a situation where total demand is rising faster than the production of goods and services. When the forces that lead to inflation originate on the supply side of the economy, the result is **cost-push inflation**, a situation where increases in production costs push up prices.

**Demand-Pull Inflation**

In demand-pull inflation, total demand rises faster than the production of goods and services, creating a scarcity that then drives up prices. Suppose, for example, that consumers gain confidence in the economy and decide they want to buy more durable goods—new refrigerators, stoves, second cars, and so on. It takes producers some time to recognize this rise in demand and to gear up for higher production. During this lag period, consumer demand pushes up prices on the currently available goods. Figure 13.9 illustrates how demand-pull inflation happens.

As you will learn in Chapter 16, the U.S. government creates and controls money through the Federal Reserve Bank. If the government creates too much money during the lag period before an increase in production makes more goods available, there will be too much money chasing too few goods, and prices will rise. The creation of excess money is the main reason for demand-pull inflation.

**Figure 13.9 Demand-Pull Inflation**

- Consumers demand more of a product
- Producers are slow to respond
- Prices rise

- Government creates more money
- Consumers have more money to spend
- Prices rise

**ANALYZE CHARTS**

1. In the first scenario, did the demand curve shift or the supply curve?
2. In the second scenario, which curve shifts when the supply of money increases?
Cost-Push Inflation

In cost-push inflation, prices are pushed upward by rising production costs. When production costs increase, producers make less of a profit. If consumer demand is strong, producers may raise their prices in order to maintain their profits. A general trend of rising prices leads to inflation.

Cost-push inflation is often the result of supply shocks—sharp increases in prices of raw materials or energy. For example, in 1973 and 1974, many members of the Organization of Petroleum Exporting Countries (OPEC) limited the amount of oil they sold to the United States and other Western countries. The resulting rapid rise in the price of oil led to cost-push inflation.

Wages are a large part of the production costs for many goods, so rising wages can lead to cost-push inflation. A wage-price spiral is a cycle in which increased wages lead to higher production costs, which in turn result in higher prices, which then lead to demands for higher wages. You can see the wage-price spiral in motion in Figure 13.10.

APPLICATION Categorizing Economic Information

B. What type of inflation would result if bad weather hit farmers hard over a long stretch of time?
What Is the Impact of Inflation?

KEY CONCEPTS

Since the 1960s, the impact of inflation on the United States economy has been significant. Inflation has raised interest rates, limited the growth of the stock market, forced agricultural bankruptcies, and slowed production. It has also had a huge impact on politics. More than half of those who voted for Ronald Reagan in 1980 said that his promise to stop the long-running inflation of the 1970s was the decisive factor. Inflation is a major challenge to economic stability. For the economy as a whole and for individual consumers, inflation has an especially strong impact on the purchasing power of the dollar and on interest rates.

EFFECT 1 Decreasing Value of the Dollar

With inflation, today’s dollar buys less than last year’s. The consumer price index, illustrated in Figure 13.7, shows that the real value of a dollar has declined steadily. The rising index represents the declining value of the dollar.

Consider how this declining value affects people who are on a fixed income. Suppose, for example, that your cousin started college with a savings of $10,000 to see him through. He planned to spend $2,500 a year on carefully budgeted expenses. However, because of inflation, each of those dollars bought less each year. To pay for exactly the same things he bought in his freshman year for $2,500, by the time he was a senior he needed $2,750. Inflation had pushed prices up by 10 percent over the four-year period. Senior citizens living on a fixed retirement income—as well as anyone else with a fixed income—are especially vulnerable to the decreasing value of the dollar through inflation.

YOUR ECONOMIC CHOICES

INFLATION AND PURCHASES

Buy now or wait?

If condominium prices have skyrocketed, does it make more sense to buy a condo now or to continue renting until the market cools off?
Conversely, inflation can help borrowers. With inflation, those who borrow at a fixed rate of interest can repay their debts with dollars that are worth less, making their repayments smaller than they would have been without inflation. Suppose someone borrows $100 at 5 percent interest, promising to pay the lender $105 after a year. If inflation rises at 5 percent, the $105 the borrower pays the lender will have the same purchasing power as the $100 of the original loan. The borrower essentially paid no real interest on the money he borrowed.

**EFFECT 2 Increasing Interest Rates**

As prices increase, interest rates also tend to increase. Lenders raise their interest rates to ensure they earn money on their loans despite inflation. Higher interest rates mean that borrowing money becomes more expensive. For example, a $10,000 loan at 10 percent interest to be repaid over the course of five years would have a monthly payment of $212.47. At 5 percent interest, the monthly payment would be only $188.71. At the end of five years, you would have paid over $1,425 more for the loan at the higher rate. When interest rates are high, businesses are less likely to borrow to expand or to make capital improvements. Consumers are less likely to make purchases of high-priced items that they would need to finance. People carrying debt on credit cards have to make higher monthly payments as their rates rise.

**EFFECT 3 Decreasing Real Returns on Savings**

Inflation also has a significant effect on savings. People who save at a fixed interest rate get a lower rate of return on their savings. While the interest paid on savings tends to increase during inflationary times, the difference between the rate of return and the rate of inflation still leaves them at a disadvantage.

For example, if someone puts $100 in a savings account that pays 5 percent interest per year, they will have $105 at the end of a year. But if the rate of inflation for the year was 10 percent, that $105 will buy only about what $95 bought when they deposited their money. Although they have more dollars, that money will buy less. Inflation, then, can discourage savings, leading more people to make purchases today rather than saving for tomorrow.

Inflation is the most commonly used economic term in the popular media, far outpacing the distant second, unemployment. Inflation worries many people, especially those who remember the volatile 1970s. Much of the worry centers on a person’s individual standard of living: Will my wages keep up with rising prices? Will my savings see me through retirement? Fear of inflation has contributed to the shift away from the traditional American belief in saving over consumption.

**APPLICATION Writing About Economics**

C. According to opinion polls, most Americans feel inflation is a more serious problem than unemployment. Write a paragraph stating your view on which is more serious. Use convincing reasons and examples.
1. Explain the relationship between the terms in each of these pairs.
   a. consumer price index
   b. hyperinflation
   c. demand-pull inflation
   producer price index
   deflation
   cost-push inflation

2. What are the stages in a wage-price spiral?

3. Use a specific example to explain cost-push inflation.

4. Use a specific example to explain demand-pull inflation.

5. What are three effects of inflation?

6. Using Your Notes If you were a business owner, what decisions might you make on news of a steady rise in inflation? Refer to your completed cluster diagram and provide specific examples.

7. Analyzing Cause and Effect Why would producers tend to experience inflation before consumers? What type of inflation would the producers experience?

8. Explaining an Economic Concept How does the creation of excess money cause a demand-pull inflation? Refer to Figure 13.9 to help you answer this question.

9. Applying an Economic Concept Imagine that union leaders are meeting with the owners of a steel manufacturer to negotiate a new five-year contract for union employees. Explain how both sides of the union-management negotiation team must take the unpredictability of future inflation into account.

10. Challenge The cost of attending college has been rising faster than the inflation rate, at times twice as fast. For proof, ask your school guidance counselor for a catalog from a private college that shows prices from several years ago. Compare the old prices to the current prices shown on the college website. Calculate the percentage increase for this school.

Estimating the Effects of Inflation
Suppose that a natural disaster disrupts the production of oil so dramatically that prices for oil and related products double in a short period of time. In this graph of macroeconomic equilibrium, P1 shows the price level before the natural disaster.

Draw Aggregate Supply and Demand Curves On your own paper, recreate the graph of macroeconomic equilibrium. Then draw the new aggregate supply curve that would result from the natural disaster scenario, and indicate where P2 would fall.

Challenge Explain what will happen to total economic output because of the change in prices. How does the new graph show this?

Use SMARTGraper @ ClassZone.com to complete this activity.
Case Study

The Effects of Inflation in the 1970s

Background Periods of high inflation can wreak havoc with a country’s economy. In the 1970s, for example, the United States experienced the biggest and most sustained period of inflation in the country’s history. By 1979, inflation had risen into the “double digits,” that is, to 10 percent per year or higher. The prices of consumer goods—everything from food and gas to cars and houses—rose dramatically. Those on fixed incomes were particularly hard-hit, because as prices rose their limited budgets bought less.

What’s the issue? How did inflation affect people and businesses in the 1970s? Study these sources to discover what it was like to live with a high rate of inflation.

The Industrialized World and Inflation

How inflation affected the U.S. economy

For the years 1967 through 1978, the U.S. inflation rate averaged 6.1 per cent a year, compared with an average of 2 per cent for the years 1952 through 1967. Even during the 1973–74 recession, unlike most previous recessions, the inflation rate continued at a relatively high rate. In the late 1970s inflation speeded up again, reaching unprecedented levels.

Inflation would not be so bad, in the opinion of some economists, if it were accompanied by substantial increases in output and employment. But economic growth in the United States slowed during the high-inflation 1970s, bringing on a condition that economists describe as “stagflation.” Another measure of economic health—productivity, or output per worker—also slowed dramatically in [those] years throughout the industrialized world, and in the United States and Great Britain for a time failed to increase at all. For the United States, a country long accustomed to ever-increasing material wealth, the fall-off in economic growth and the constantly eroding value of the dollar were traumatic developments. If the trends continued, the average American could no longer anticipate a constantly rising standard of living.

Source: The Search for a New Economic Order, The Ford Foundation, 1982

Thinking Economically Explain how the effects of inflation might be offset by increases in output and employment.
Protesting Inflation

Consumers grew impatient with the government’s inability to control inflation.

Here we are, spending more and getting less, but the [government] economists are optimistic. What makes them so happy? The rate of inflation may have dropped 1 per cent. Just suppose the rate of inflation had gone down from 5 per cent to 4 per cent... To me this is another increase of four cents, and a further shrinkage of my dollar.

Obviously this type of economics is good for someone. It certainly isn’t good for me, or my friends, or my relatives. Everyone is complaining, but the experts are satisfied.

I have a family of meat eaters... Long ago I discovered a marvelous cut of meat called skirt steak. It used to cost 89 cents a pound. It has inched its way up and has recently taken a leap to $1.59 and overtaken sirloin steak. Chopped meat is now where my skirt steak used to be... Even the lowly onion is no longer cheap. A weekly trip to the supermarket, which in 1969 cost $50, now costs $70.


Thinking Economically

Why might a small decrease in a large rate of inflation satisfy government economists but frustrate consumers?

THINKING ECONOMICALLY

1. Name one example from each document that shows how inflation has a negative impact on the economy.
2. Inflation is a general rise in price levels. Are the examples of price increases in documents B and C symptoms of inflation or isolated price increases?
3. Compare the tone of documents A and C. Do economists care as much about inflation as consumers? Explain your answer.
There are different types of unemployment. 1 represents workers changing jobs to increase their working satisfaction or to accommodate a move to another region. 2 results from significant changes in the economy and in the way work is done. Even during periods of 3 about 4 to 6 percent of the work force is still unemployed.

Nearly 40 million people in the United States have incomes below the 4, even though the nation has one of the highest median incomes in the world. The poorest receive assistance through 5. In recent years 6, which requires an exchange of labor for government benefits, has replaced some direct cash payments.

7, a rise in the general level of prices, is another economic challenge. To monitor it, government economists developed the 8, which tracks what consumers pay for a market basket of items, and the 9, which tracks prices from the producers’ point of view. They monitor the 10 using these indices.

7. What type of unemployment is it when an industry lays off workers but outsources their jobs? Name an example from the table.

8. Which industries’ job cuts are probably due to changes in the business cycle?
9. **Creating Graphs** The population can be divided into five equal groups—or quintiles—according to income. Income mobility means moving from one quintile to another. A study done by the U.S. Treasury Department between 1979 and 1988 showed the following about taxpayers who started out in the lowest quintile:

- 14.2 percent of the taxpayers in the bottom quintile in 1979 were still there in 1988
- 20.7 percent had moved to the next higher quintile
- 25 percent had moved to the middle quintile
- 25.3 percent had moved to the second highest quintile
- 14.4 percent of those who started in the lowest quintile had moved into the highest quintile

Create a bar graph that illustrates these facts about income mobility in the United States. Use SMARTGrapher @ ClassZone.com to complete this activity.

10. **Analyzing and Interpreting Data** What conclusions can you draw about income mobility based on the above data?

11. **Analyzing Cause and Effect** Think of three possible reasons a person might be able to move from one level of income to another.

12. **Explaining an Economic Concept** Which antipoverty programs use market forces to achieve their goals? Explain your answer.

13. **Analyzing and Interpreting Data** Consider the following data:

   - Consumer Price Index: up by 6 percent
   - Unemployment Rate: up to 7 percent
   - Gross Domestic Product: up by 1 percent

   What’s the economic problem? To correct the problem, which of these measures would you address first and why?

14. **Challenge** Which economic challenge—unemployment, poverty, or inflation—represents the greatest threat to social stability, in your opinion? Explain your answer with reasons and examples.

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**The Pursuit of Happiness**

Do you need money to be happy? Since income alone does not tell the whole story of someone’s quality of life, some people think other measures besides income should be used to determine a household’s well-being. Many elements beyond material possessions also affect a person’s quality of life.

To better understand the relationship between wealth and happiness, create a quality-of-life threshold by following the steps below.

**Step 1.** As a whole class, discuss the differences between income and quality of life.

**Step 2.** Break into five small groups and devise a quality-of-life threshold, a standard below which a person would be considered seriously impoverished.

**Step 3.** Try to find a measure for each of your criteria. For example, if one standard is “lives in warm climate,” define the temperature range that qualifies as warm.

**Step 4.** Report your criteria to the rest of the class and explain how you would measure each.

**Step 5.** With the whole class, debate the relative merits of each quality-of-life threshold and its measurement.

**Challenge** Write a paragraph explaining how the quality-of-life threshold you developed relates to Hernando de Soto’s ideas about property and prosperity (see page 394).