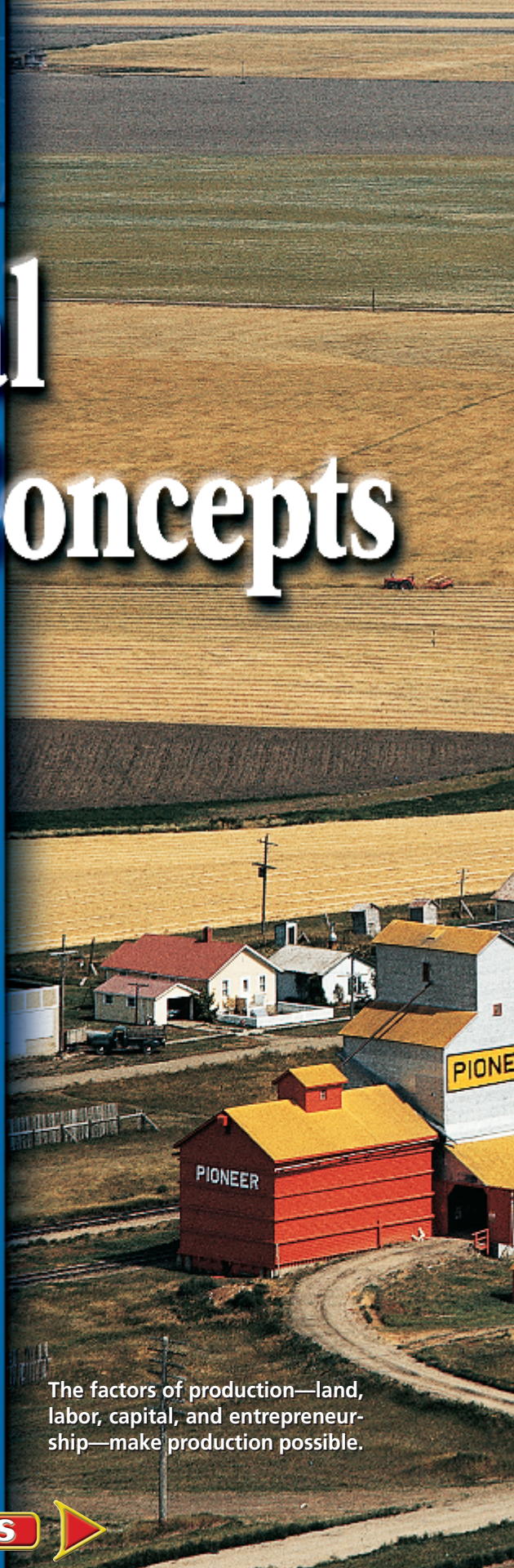
UNIT 1

Fundamental Economic Concepts

Why It's Important

As you read this unit, learn how the study of economics helps answer the following questions:

- How do you make the decision between buying gas for your car or taking your friend out for pizza?
- Why is your friend from Russia stunned by all the shoes available at your local shoe store?
- Why is an item at a department store less expensive than that same item at a specialty shop?



The factors of production—land, labor, capital, and entrepreneurship—make production possible.

ECONOMICS Online

To learn more about basic economic concepts through information, activities, and links to other sites, visit the *Economics: Principles and Practices* Web site at epp.glencoe.com

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CHAPTER 1

What Is Economics?

Economics & You

The study of economics will help you become a better decision maker—it helps you develop a way of thinking about how to make the best choices for you. To learn more about the scope of economics, view the Chapter 2 video lesson:

What Is Economics?

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Chapter Overview Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 1—Chapter Overviews*** to preview chapter information.

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Consumers must make choices from many alternatives.

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SECTION 1

Scarcity and the Science of Economics

Study Guide

Main Idea
Scarcity forces us to make choices. We can't have everything we want, so we are forced to choose what we want most.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer like the one below by listing and describing the three economic choices every society must make.

Key Terms
scarcity, economics, need, want, factors of production, land, capital, financial capital, labor, entrepreneur, production, Gross Domestic Product (GDP)

Objectives
After studying this section, you will be able to:
1. **Explain** the fundamental economic problem.
2. **Examine** the three basic economic questions every society must decide.

Applying Economic Concepts
Scarcity Read to find out why scarcity is the basic economic problem that faces everyone.

Cover Story

Harris Poll Shows High Interest in Economics


The focus on economics education is growing.

American adults have an exceptionally keen interest in economics. More than seven in ten say they share the same high level of interest in economics as they do politics, business and finance. A full 96% believe basic economics should be taught in high school. Yet, half of these same adults and two out of three high school students flunked an elementary quiz on basic economic concepts. Clearly the time has come [to] place economic literacy higher on the national education agenda.

—April 27, 1999 press release, The National Council on Economic Education

Do you think the study of economics is worth your time and effort? According to the Harris poll in the cover story, a huge percentage of Americans think it is. They must know what economists know–that a basic understanding of economics can help make sense of the world around us.

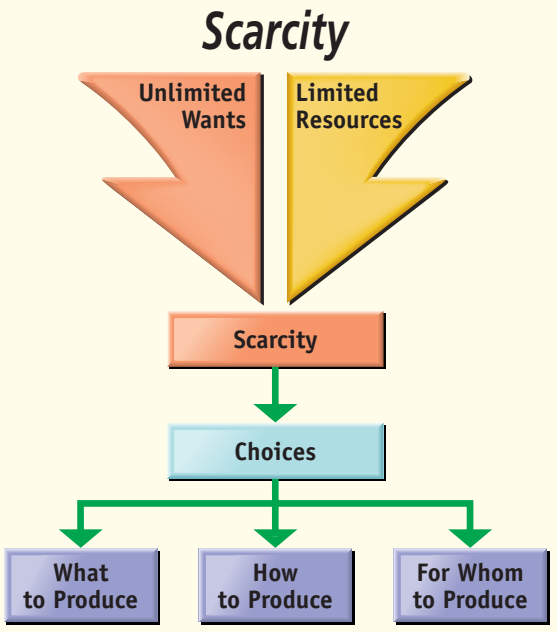
The Fundamental Economic Problem

Have you ever noticed that very few people are satisfied with the things they have? Someone without a home may want a small one; someone else with a small home may want a larger one; someone with a large home may want a mansion. Others want things like expensive sports cars, lavish jewelry, and exotic trips. Whether they are rich or poor, most people seem to want more than they already have. In fact, if each of us were to make a list of all the things we want, it would include more things than we could ever hope to obtain.

The fundamental economic problem facing all societies is that of scarcity. **Scarcity** is the condition that results from society not having enough resources to produce all the things people would like to have.

ECONOMICS AT A GLANCE

Figure 1.1



Using Charts Scarcity is the fundamental economic problem that forces consumers and producers to use resources wisely. **Why is scarcity a universal problem?**

As shown in **Figure 1.1,** scarcity affects almost every decision we make. This is where the study of economics comes in. **Economics** is the study of how people try to satisfy what appears to be seemingly unlimited and competing wants through the careful use of relatively scarce resources.

Needs and Wants

Economists often talk about people's needs and wants. A **need** is a basic requirement for survival and includes food, clothing, and shelter. A **want** is a way of expressing a need. Food, for example, is a basic need related to survival. To satisfy the need for food, a person may "want" a pizza or other favorite meal. Because any number of foods will satisfy the need for nourishment, the range of things represented by the term *want* is much broader than that represented by the term *need.*

"There Is No Such Thing as a Free Lunch"

Because resources are limited, virtually everything we do has a cost—even when it seems as if we are getting something "for free."

For example, you may think you are getting a free lunch when you use a "buy one, get one free" coupon. However, while you may not pay for the extra lunch then and there, someone had to pay the farmer for raising the food, the truck driver for delivering the food, the chef for preparing the food, and the server for serving the food.

How does business recover these costs? Chances are that the price of the giveaway is usually hidden somewhere in the prices the firm charges for its products. As a result, the more a business gives away "free," the more it has to raise the prices for the items it sells. In the end, someone always pays for the supposedly "free" lunch—and that someone may be you!

Unfortunately, most things in life are not free because someone has to pay for the production in the first place. Economic educators use the term *TINSTAAFL* to describe this concept. In short, this term means that *There Is No Such Thing As A Free Lunch.*

Three Basic Questions

Because we live in a world of relatively scarce resources, we have to make wise economic choices. **Figure 1.1** presents three of the basic questions we have to answer. In so doing, we make decisions about the ways our limited resources will be used.

WHAT to Produce

The first question is that of WHAT to produce. Should a society direct most of its resources to the production of military equipment or to other items such as food, clothing, or housing? Suppose the decision is to produce housing. Should its limited resources be used for low-income, middle-income, or upper-income housing? How many of each will be needed? A society cannot have everything its people want, so it must decide WHAT to produce.

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HOW to Produce

A second question is that of HOW to produce. Should factory owners use mass production methods that require a lot of equipment and few workers, or should they use less equipment and more workers? If an area has many unemployed people, the second method might be better. On the other hand, mass production methods in countries where machinery and equipment are widely available can often lower production costs. Lower costs make manufactured items less expensive and, therefore, available to more people.

FOR WHOM to Produce

The third question deals with FOR WHOM to produce. After a society decides WHAT and HOW to produce, the things produced must be allocated to someone. If the society decides to produce housing, should it be distributed to workers, professional people, or government employees? If there are not enough houses for everyone, a choice must be made as to who will receive the existing supply.

These questions concerning WHAT, HOW, and FOR WHOM to produce are not easy for any society to answer. Nevertheless, they must be answered as long as there are not enough resources to satisfy people's seemingly unlimited wants.

The Factors of Production

The reason people cannot satisfy all their wants and needs is the scarcity of productive resources. The **factors of production,** or resources required to produce the things we would like to have, are land, capital, labor, and entrepreneurs. As shown in **Figure 1.2,** all four are required if goods and services are to be produced.

Land

In economics, **land** refers to the "gifts of nature," or natural resources not created by humans. "Land" includes deserts, fertile fields, forests, mineral deposits, livestock, sunshine, and the climate necessary to grow crops. Because only so many natural resources are available at any given time, economists tend to think of land as being fixed, or in limited supply.

For example, there is not enough good farmland to adequately feed all of the earth's population, nor enough sandy beaches for everyone to enjoy, nor enough oil and minerals to meet our expanding energy needs indefinitely. Because the supply of a productive factor like land is relatively fixed, the problem of scarcity is likely to become worse as population grows in the future.

Capital

Another factor of production is **capital**–the tools, equipment, machinery, and factories used in the production of goods and services. Such items are also called capital goods to distinguish them from **financial capital,** the money used to buy the tools and equipment used in production.

Economic Choices

Making Decisions If we cannot have everything we want, then we have to choose what we want the most. ***Why must a society face the choices about what, how, and for whom to produce?***

ECONOMICS AT A GLANCE

Figure 1.2

The Factors of Production

Land

Land includes the "gifts of nature," or natural resources not created by human effort.

Capital

Capital includes the tools, equipment, and factories used in production.

Labor

Labor includes people with all their efforts and abilities.

Entrepreneurs

Entrepreneurs are individuals who start a new business or bring a product to market.

Synthesizing Information The four factors of production are necessary for production to take place. **What four factors of production are necessary to bring jewelry to consumers?**

Capital is unique in that it is the result of production. A bulldozer, for example, is a capital good used in construction. It also was built in a factory, which makes it the result of earlier production. Like the bulldozer, the cash register in a neighborhood store is a capital good, as are the computers in your school that are used to produce the service of education.

Labor

A third factor of production is **labor**–people with all their efforts, abilities, and skills. This category includes all people except for a unique group of individuals called entrepreneurs, which we single out because of their special role in the economy.

Unlike land, labor is a resource that may vary in size over time. Historically, factors such as population growth, immigration, famine, war, and disease have had a dramatic impact on both the quantity and quality of labor.

Entrepreneurs

Some people are special because they are the innovators responsible for much of the change in our economy. Such an individual is an **entrepreneur,** a risk-taker in search of profits who does something new with existing resources. Entrepreneurs often are thought of as being the driving force in an economy because they exhibit the ability to start new businesses or bring new products to market. They provide the initiative that combines the resources of land, labor, and capital into new products.

Production

When all factors of production–land, capital, labor, and entrepreneurs–are present, **production,** or the process of creating goods and services, can take place. In fact, everything we produce requires these factors. For example, the chalkboards, desks, and audiovisual equipment used in schools are capital goods. The labor is in the form of services supplied

by teachers, administrators, and other employees. Land, such as the iron ore, granite, and timber used to make the building and desks, as well as the land where the school is located, is also needed. Finally, entrepreneurs are needed to organize the other three factors and make sure that everything gets done.

The Scope of Economics

Economics is the study of human efforts to satisfy what appear to be unlimited and competing wants through the careful use of relatively scarce resources. As such, it is a *social science* because it deals with the behavior of people as they deal with this basic issue. There are four key elements to this study: description, analysis, explanation, and prediction.

Description

Economics deals with the description of economic activity. For example, you will often hear about the **Gross Domestic Product (GDP)**–the dollar value of all final goods and services, and structures produced within a country's borders in a 12-month period. GDP is the most comprehensive measure of a country's total output and is a key measure of the nation's economic health. Economics is also concerned with what is produced and who gets how much, as well as with topics such as unemployment, inflation, international trade, the interaction of business and labor, and the effects of government spending and taxes.

Description is important because we need to know what the world around us looks like. However, description is only part of the picture because it leaves many important "why" and "how" questions unanswered.

Analysis

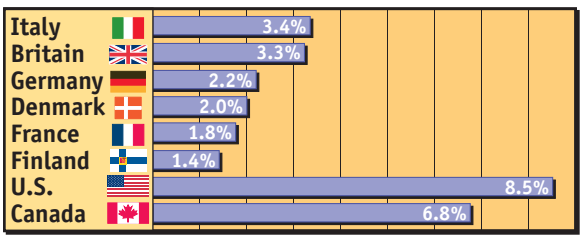
In order to answer such questions, economics must focus on the analysis of economic activity as well. Why, for example, are prices of some items high while others are low? Why do some people earn higher incomes than others? How do taxes affect people's desire to work and save?

THE GLOBAL ECONOMY

United States Leads in Entrepreneurs

A vast majority of the owners of the nearly 20 million businesses in the United States are entrepreneurs. Most either work for themselves or have a few employees.

A 10-nation study found that the United States leads when it comes to entrepreneurs. According to the survey, nearly 1 in 12 Americans is trying to start a new business. In second place is Canada. The study also shows a strong link between business start-up rates and overall economic growth. The graph shows the percentage of the adult population starting new businesses.



Source: *1999 Global Entrepreneurship Monitor*

Critical Thinking

1. **Analyzing Information** In which nation is entrepreneurial activity strongest? Weakest?
2. **Making Comparisons** How does the level of North America's entrepreneurial activity compare with Europe's?
3. **Drawing Conclusions** Do you think there is a link between business start-up rates and overall economic growth? Why or why not?

CYBERNOMICS SPOTLIGHT

Capital

"Capital" comprises the tools, equipment, and factories used to produce goods and services. As the economy changes, some economists are adjusting the definition to include "tools" such as knowledge and intellectual property. An example of such knowledge and intellectual property are databases and software.

The importance of analysis is that it helps us to discover why things work and how things happen. This, in turn, will help us deal with problems that we would like to solve.

Explanation

Economics is also concerned with the explanation of economic activity. After economists understand why and how things work, it is useful and even necessary to communicate this knowledge to others. If we all have a common understanding of the way our economy works, some economic problems will be much easier to address or even fix in the future. When it comes to the GDP, you will soon discover that economists spend much of their time explaining why the measure is, or is not, performing in the manner expected.

Prediction

Finally, economics is concerned with prediction. For example, we may want to know if people's incomes are going to rise or fall in the future, affecting their spending habits in the marketplace. Or, perhaps a community trying to choose between higher taxes on homeowners or higher taxes on businesses needs to know the consequences of each alternative before it makes its choice.

The study of economics can help to make the best decision in both situations. Because economics deals with the study of what is, or what tends to be, it can help predict what may happen in the future, as well as the likely consequences of different courses of action.

Finally, it is also important to realize that the actual decisions about the economic choices to be made are the responsibility of all citizens in a free and democratic society. Therefore, the study of economics helps all of us to become more informed citizens and better decision makers.

Section 1 Assessment

Checking for Understanding

1. **Main Idea** Using your notes from the graphic organizer activity on page 5, explain why a society must face the choices about WHAT, HOW, and FOR WHOM to produce.
2. **Key Terms** Define scarcity, economics, need, want, factors of production, land, capital, financial capital, labor, entrepreneur, production, Gross Domestic Product (GDP).
3. **Describe** the fundamental economic problem.
4. **List** the three basic economic questions every society must answer.
5. **Describe** the factors of production.
6. **List** the four key elements of economics.

Applying Economic Concepts

7. **Scarcity** How does scarcity affect your life? Provide several examples of items you had to do without because of limited resources. Explain how you adjusted to this situation. For example, were you able to substitute other items for those you could not have?

Critical Thinking

8. **Synthesizing Information** Give an example of a supposedly "free" item that you see every day. Explain why the item is not really free by stating who or what actually pays for it.

Practice and assess key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2.*

BusinessWeek

Newsclip

Alexis de Tocqueville, a French traveler, wrote about his travels in the United States during the 1830s. His book, Democracy in America, *a two-volume study of the American people and their institutions, is still relevant today.*

The Role of the Entrepreneur

What astonishes me in the United States is not so much the marvelous grandeur of such undertakings as the innumerable multitude of small ones.

–Alexis de Tocqueville, 1835

What [de Tocqueville noticed nearly 160 years ago]–before the advent of Apple Computer, Genentech, Microsoft, or Nucor–is just as true today. The only difference is that the spirit of enterprise is more than ever a global phenomenon with few bounds.

From the row of kiosks selling goods on nearly every block in Moscow to the cramped factories in Taiwan, Russian *biznez-men* and Chinese *chang-shang* are reshaping their nations' economies in much the same way as those ingenious old Yankees created the basis for America's business cultures just after independence was won.

Any [de Tocqueville of modern times] would notice something else about this global shift:

Changes in the rules of the business game are putting a premium on the entrepreneurial qualities of [the smaller] companies. Today's successful enterprises are nimble, innovative, close to the customer, and quick to the market. They're not bureaucratic, centrally controlled institutions that are slow to change. It adds us to a new management catechism with many of the hallmarks of small business. . . .

Sure, some industries, such as auto making and petrochemicals, still require size and scale. But the swift pace of technological change and the fragmentation of markets are eroding the traditional economies of scale. Indeed, some management thinkers now speak of the "diseconomies of scale," the unresponsiveness, sluggishness, and high costs that come with bureaucracy. While the behemoths try to adjust to new competitive realities, younger and smaller companies have emerged as the agents of change in economies around the world. . . .

Examining the Newsclip

1. **Summarizing Information** What are the entrepreneurial qualities of small companies?
2. **Finding the Main Idea** What does the writer mean by "diseconomies of scale"?

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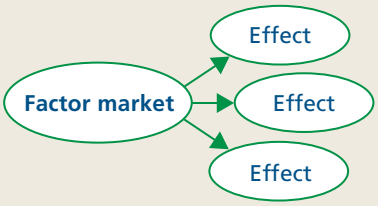
Basic Economic Concepts

Study Guide

Main Idea
An economic product is a good or service that is useful, relatively scarce, and exchangeable.

Reading Strategy
Graphic Organizer As you read the section, describe three different transactions that could take place in the factor market. Use a web like the one below to help you organize your answer.



Key Terms
economic product, good, consumer good, capital good, service, value, paradox of value, utility, wealth, market, factor market, product market, economic growth, productivity, division of labor, specialization, human capital, economic interdependence

Objectives
After studying this section, you will be able to:
1. **Explain** the relationship among scarcity, value, utility, and wealth.
2. **Understand** the circular flow of economic activity.

Applying Economic Concepts
Specialization Read to discover how specialization increases production.

Cover Story

On Specialization

To take an example, . . . One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and [the making of] a pin is, in this manner, divided into about eighteen distinct operations.

—Adam Smith, *The Wealth of Nations*, 1776

Adam Smith

Economics, like any other social science, has its own vocabulary. To understand economics, a review of some key terms is necessary. Fortunately, most economic terms are widely used, and many will already be familiar to you.

Goods, Services, and Consumers

Economics is concerned with **economic products**–goods and services that are useful, relatively scarce, and transferable to others. Economic products are scarce in an economic sense. That is, one cannot get enough to satisfy individual wants and needs. Because of these characteristics, economic products command a price.

Goods

The first type of economic product is a **good**–an item that is economically useful or satisfies an economic want, such as a book, car, or compact disc player. A **consumer good** is intended for final use by individuals. When manufactured goods are used to produce other goods and services, they are called **capital goods.** An example

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of a capital good would be a robot welder in a factory, an oven in a bakery, or a computer in a high school.

Any good that lasts three years or more when used on a regular basis is called a durable good. Durable goods include both capital goods, such as robot welders, and consumer goods such as automobiles. A nondurable good is an item that lasts for less than three years when used on a regular basis. Examples of nondurable goods include food, writing paper, and most clothing items.

Services

The other type of economic product is a **service,** or work that is performed for someone. Services include haircuts, home repairs, and forms of entertainment such as concerts. They also include the work that doctors, lawyers, and teachers perform. The difference between a good and a service is that a service is intangible, or something that cannot be touched.

Consumers

The consumer is a person who uses goods and services to satisfy wants and needs. As consumers, people indulge in consumption, the process of using up goods and services in order to satisfy wants and needs.

Value, Utility, and Wealth

In economics, **value** refers to a worth that can be expressed in dollars and cents. Why, however, does something have value, and why are some things worth more than others? To answer these questions, it helps to review an early problem faced by economists.

Paradox of Value

At first, early economists were puzzled by a contradiction between necessities and value called the **paradox of value.** The paradox of value is the situation where some necessities, such as water, have little monetary value, whereas some non-necessities, such as diamonds, have a much higher value.

Economists knew that scarcity is required for value. For example, water was so plentiful in many areas that it had little or no value. On the other hand, diamonds were so scarce that they had great value. The problem was that scarcity by itself is not enough to create value.

Utility

It turned out that for something to have value, it must also have **utility,** or the capacity to be useful and provide satisfaction. Utility is not something that is fixed or measurable, like weight or height. Instead, the utility of a good or service may vary from one person to the next. One person may get a great deal of satisfaction from a home computer; another may get very little. One person may enjoy a rock concert; another may not. A good or service does not have to have utility for everyone, only utility for some.

For something to have value, economists decided, it must be scarce *and* have utility. This is the solution to the paradox of value. Diamonds are scarce and have utility–and therefore they possess a value that can be stated in monetary terms. Water has utility, but is not scarce enough in most places to give it much value. Therefore, water is less expensive, or has less value, than diamonds.

STANDARD &POOR'S INFOBYTE

Durable Goods Orders The Department of Commerce's report on durable goods orders highlights the number of new orders placed with domestic manufacturers for goods intended to last over three years. The report is divided into broad categories; these include defense, nondefense, and capital and noncapital goods. Noncapital goods are generally of the consumer spending variety and include automobiles and large appliances. Capital goods tend to be of the investment spending nature, while defense goods indicate government spending.

Wealth

Another concept is **wealth.** Wealth, in an economic sense, is the accumulation of those products that are tangible, scarce, useful, and transferable from one person to another. Consequently, a nation's wealth is comprised of all items, including natural resources, factories, stores, houses, motels, theaters, furniture, clothing, books, highways, video games, and even footballs.

While goods are counted as wealth, services are not because they are intangible. However, this does not mean that services are not useful. Indeed, when Adam Smith wrote *The Wealth of Nations* in 1776, he was referring specifically to the ability and skills of a nation's people as the source of its wealth. To illustrate, if a country's material possessions were taken away, its people, through their skilled efforts, could restore these possessions. On the other hand, if a country's people were taken away, its wealth would deteriorate.

Wealth

Natural Resources Fertile land is a natural resource and an item of wealth. ***Why are natural resources considered part of the nation's wealth?***

The Circular Flow of Economic Activity

The wealth that an economy generates is made possible by the circular flow of economic activity. The key feature of this circular flow is the **market,** a location or other mechanism that allows buyers and sellers to exchange a certain economic product. Markets may be local, regional, national, or global. More recently, markets have evolved in cyberspace, with buyers and sellers interacting through computer networks without leaving the comfort of their homes.

Factor Markets

How does this circular flow operate? As shown in **Figure 1.3,** individuals earn their incomes in **factor markets,** the markets where productive resources are bought and sold. This is where entrepreneurs hire labor for wages and salaries, acquire land in return for rent, and borrow money for interest. The concept of a factor market is a simplified version of the real world, of course, but it is nevertheless realistic. To illustrate, you participate in the factor market whenever you go to work and sell your labor to an employer.

Product Markets

After individuals receive their income from the resources they sell, they spend it in **product markets,** markets where producers sell their goods and services to consumers. Thus, the money that individuals receive from businesses in the factor markets returns to businesses in the product markets. Businesses then use this money to produce more goods and services–and the cycle, through economic activity, repeats itself.

As you can see from **Figure 1.3,** markets serve as the main links between individuals and businesses. Note that money circulates on the outside, illustrating payments for goods, services, and the factors of production. The actual factors of production, and the products made with these productive inputs, flow in the opposite direction on the inside.

Productivity and Economic Growth

Economic growth occurs when a nation's total output of goods and services increases over time. This means that the circular flow in **Figure 1.3** becomes larger, with more factors of production, goods, and services flowing in one direction, and more payments flowing in the opposite direction. A number of factors are responsible for economic growth, but productivity is the most important.

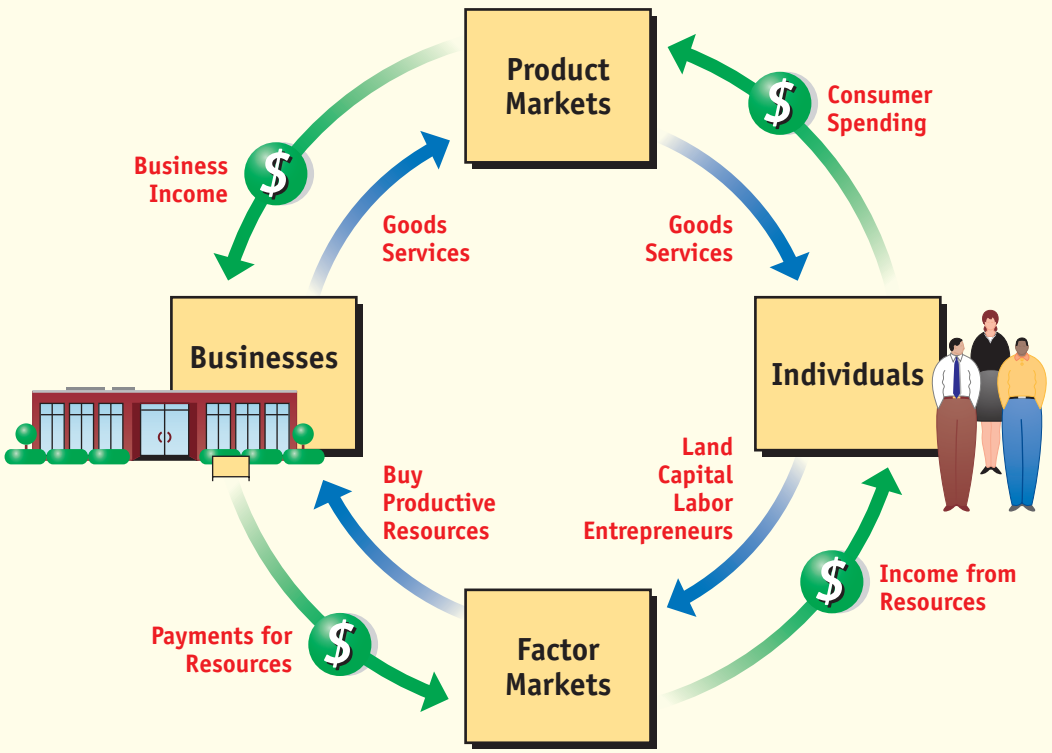
Productivity

Everyone benefits when scarce resources are used efficiently. This is described by the term **productivity,** which is a measure of the amount of output produced by a given amount of inputs in a specific period of time. Productivity goes up whenever more output can be produced with the same amount of inputs in the same amount of time. For example, if a company produced 500 units of a product in one period, and if it produced 510 in

ECONOMICS AT A GLANCE

Figure 1.3

The Circular Flow of Economic Activity



Using Charts The circular flow diagram shows the high degree of economic interdependence in our economy. In the diagram, the factors of production and the products made from them flow in one direction. The payments for the factors, which consumers spend on goods and services, flow in the opposite direction. **As a consumer, what role do you play in the circular flow of economic activity?**

the next period with the same number of inputs, then productivity went up.

Productivity is often discussed in terms of labor, but it applies to all factors of production. For this reason, business owners try to buy the most efficient capital goods, and farmers try to use the most fertile land for their crops.

Division of Labor and Specialization

Division of labor and specialization can improve productivity. **Division of labor** takes place when work is arranged so that individual workers do fewer tasks than before. In most cases, a worker who performs a few tasks many times every day is likely to become more proficient than a worker who performs hundreds of different tasks in the same period.

Specialization takes place when factors of production perform tasks that they can do relatively more efficiently than others. Note that specialization is not limited to a single factor of production such as labor. For example, complex industrial robots are often built to perform just one or two simple assembly line tasks. In regional specialization, different regions of the country often specialize in the things they can produce best–as when Idaho specializes in potatoes, Iowa in corn, and Texas in oil, cotton, and cattle.

One of the best examples of the advantages offered by the division of labor and specialization is Henry Ford's introduction of the assembly line into automobile manufacturing. This process cut the time necessary to assemble a car from a day and a half to just over 90 minutes. It also cut the price of a new car by more than 50 percent. The result was an improvement in productivity.

Another example of the changes that can result from specialized tools can be seen in American agriculture. In 1910 it took more than 13 million farmers to feed the U.S. population, at that time about 90 million. Today, 2 million farmers can feed a population that is more than three times as large as it was in 1910.

Investing in Human Capital

One of the main contributions to productivity comes from investments in **human capital,** the sum of the skills, abilities, health, and motivation of people. Government can invest in human capital by helping to provide education and health care. Businesses can invest in training and other programs that improve the skill and motivation of its workers. Individuals can invest in their own education by completing high school, going to technical school, or going to college.

Figure 1.4 shows that investments in education can have substantial payoffs. According to the data in the table, high school graduates have substantially higher incomes than

ECONOMICS AT A GLANCE

Figure 1.4

Effect of Education on Income

Education	Average Income For Males	Females
Less Than 9th Grade	$25,112	$18,227
9th to 12th Grade (no diploma)	$30,656	$23,625
High School Graduate & Equivalency	$39,017	$27,525
Some College, no degree	$46,696	$33,002
Associate Degree	$48,153	$34,560
Bachelor's Degree	$71,361	$45,778
Master's Degree	$87,099	$57,874
Professional Degree	$130,764	$72,689
Doctorate Degree	$104,237	$70,302

Source: U.S. Department of Commerce, Bureau of the Census, 2003

Using Tables Education is one way to invest in human capital. **How does this type of investment pay off for both employers and their employees?**

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nongraduates, and college graduates make even more than high school graduates. Educational investments require that we make a sacrifice today so we can have a better life in the future–and few investments generate higher returns.

Investing in the Future

Businesses, government, and other organizations face many of the same choices that individuals do. Investments in human capital and physical capital can eventually increase production and promote economic growth. Faster economic growth, in turn, increases the amount of goods and services available to us.

Economic Interdependence

The American economy has a remarkable degree of **economic interdependence.** This means that we rely on others, and others rely on us, to provide the goods and services that we consume.

Events in one part of the country or the world often have a dramatic impact elsewhere. To illustrate, a labor dispute between several hundred professional basketball players and a handful of owners can affect the lives of tens of thousands of people who park cars, sell tickets, serve food at the games, and sell NBA apparel and memorabilia all across the country. Or, bad weather in countries where sugar cane is grown can affect sugar prices in the United States, which in turn can affect the price of snack foods and the demand for sugar substitutes elsewhere.

This does not mean that economic interdependence is necessarily bad. The gain in productivity and income as a result of increased specialization almost always offsets the costs associated with the loss in self-sufficiency. However, we need to understand how all the parts fit together, which is one reason why we study economics.

Did you know?

First and Biggest The world's first programmable computer, the Electronic Numerical Integrator and Computer (ENIAC), was developed in 1946. Standing almost 10 feet tall and 80 feet wide, ENIAC could perform up to 5,000 operations per second. Personal computers today easily outperform ENIAC.

Section 2 Assessment

Checking for Understanding

1. **Main Idea** Using your notes from the graphic organizer activity on page 12, explain the different transactions that take place in the product market.
2. **Key Terms** Define economic product, good, consumer good, capital good, service, value, paradox of value, utility, wealth, market, factor market, product market, economic growth, productivity, division of labor, specialization, human capital, economic interdependence.
3. **Discuss** the relationship among scarcity, value, utility, and wealth.
4. **Describe** the circular flow of economic activity.
5. **Explain** why productivity is important to economic growth.

Applying Economic Concepts

6. **Specialization** Provide at least three examples each of specialized workers and capital that are used in your school to provide the service of education. Would productivity go up or down if these specialized capital goods and workers were not available to your school? Explain why or why not.

Critical Thinking

7. **Making Comparisons** What is the difference between a durable good and a nondurable good?
8. **Drawing Conclusions** In what way do businesses and households both supply and demand in the circular flow model?

Practice and assess key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2.*

Profiles IN Economics

The Father of Classical Economics: Adam Smith

(1723–1790)

Take a look at a Scottish penny and you'll be surprised by what you see. The person pictured was not a political or military figure, but an economist: Adam Smith. It is a fitting tribute to a man who contributed so much to economics.

HIS LIFE

Smith was born in Kirkcaldy, Scotland. After graduating from Glasgow University, he traveled to England and enrolled at Oxford University. Six years later, Smith returned to Scotland to lecture at Edinburgh University and at his alma mater, where he was immensely popular with his students. Smith became a tutor to a young duke, and traveled throughout Europe.

HIS IDEAS

Smith met and exchanged ideas with French writer Voltaire, Benjamin Franklin, and the French economist Quesnay. His travels helped him formulate the ideas put forth in *The Wealth of Nations* (1776). In *The Wealth of Nations,* Smith observed that labor becomes more productive as each worker becomes more skilled at a single job. He said that new machinery and the division of labor and specialization would lead to an increase in production and greater "wealth of nations." Smith also put forth what was then a radical new idea: that the wealth of a nation should be defined as the sum of its labor-produced goods, not by who owned those goods.

Smith's most influential contribution, however, concerned competition in the marketplace. Every individual, Smith wrote, "intends only his own gain, and he is in this . . . led by an invisible hand. . . . By pursuing his own interest he frequently promotes that of the society. . . ." Smith argued that a free market isn't chaotic, but that competition acts as an "invisible hand" that guides resources to their most productive uses. A truly free, competitive market–operating with a minimum of government intervention–would bring about the greatest good for society as a whole.

The English aristocracy ridiculed *The Wealth of Nations.* Business people, however, were delighted to have a moral justification for their growing wealth and power. Soon, Smith's doctrine of *laissez-faire* (French, "let it be"), meaning minimal government intervention in economic affairs, became the economic watchword in Europe, and is today the economic watchword of much of the world.

Examining the Profile

1. **Summarizing Ideas** Summarize Smith's contribution to economic thought.
2. **Synthesizing Information** Explain how Smith's ideas are evident in the workings of the American economy.

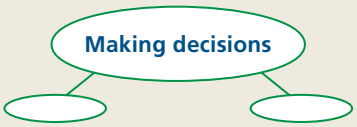
SECTION 3

Economic Choices and Decision Making

Study Guide

Main Idea
Trade-offs are present whenever choices are made.

Reading Strategy
Graphic Organizer As you read this section, complete a graphic organizer similar to the one below by explaining what you need to know to become a good decision maker.



Key Terms
trade-off, opportunity cost, production possibilities frontier, cost-benefit analysis, free enterprise economy, standard of living

Objectives
After studying this section, you will be able to:
1. **Analyze** trade-offs and opportunity costs.
2. **Explain** decision-making strategies.

Applying Economic Concepts
Opportunity Costs Read to find out how your decisions are measured in terms of opportunity costs.

Cover Story

Cost Benefit Analysis


Social programs involve trade-offs and opportunity costs.

Research has long demonstrated the educational value of early intervention for America's at-risk children, but a new study also shows the federal programs are a wise public investment.

[A] cost-benefit analysis of the federally funded Chicago Child-Parent Center program, which serves children from low-income families in Chicago's inner city [shows that] an average annual cost of $6,730 per child … generated a total return to society at large of $47,759 per participant.

- *AScribe Newswire*, June 26, 2001

The process of making a choice is not always easy. Still, individuals, businesses, and government agencies, like the Chicago Child-Parent Center program, who try to satisfy people's wants and needs, must make decisions. Because resources are scarce, consumers need to make wise choices. To become a good decision maker, you need to know how to identify the problem and then analyze your alternatives. Finally, you have to make your choice in a way that carefully considers the costs and benefits of each possibility.

Trade-Offs and Opportunity Cost

There are alternatives and costs to everything we do. In a world where "there is no such thing as a free lunch," it pays to examine these concepts closely.

Trade-Offs

The first thing we must recognize is that people face **trade-offs,** or alternative choices, whenever they make an economic decision. To help make the decision, constructing a grid such as that in **Figure 1.5** shows one way to approach the

problem. This grid summarizes a decision to be made by Jesse, a newspaper carrier, whose dilemma is how to spend a gift of $50 in the best way possible.

Jesse realizes that several alternatives are appealing–a soccer ball, jeans, a portable CD player, several CDs, or concert tickets. At the same time, he realizes that each item has advantages and disadvantages. Some of these items are more durable than others, and some might require his parents' consent. Some even have additional costs while others do not–the CD player would require batteries and the concert tickets would require the use of his parents' car.

To help with his decision, Jesse draws a grid that lists his alternatives and several criteria by which to judge them. Then he evaluates each alternative with a "yes" or "no." In the end, Jesse chooses the jeans because they satisfy more of his criteria than any other alternative.

Using a decision-making grid is one way to analyze an economic problem. Among other things, it forces you to consider a number of relevant alternatives. For another, it requires you to identify the criteria used to evaluate the alternatives. Finally, it forces you to evaluate each alternative based on the criteria you selected.

Opportunity Cost

People often think of cost in terms of dollars and cents. To an economist, however, cost often means more than the price tag placed on a good or service. Instead, economists think broadly in terms of **opportunity cost**–the cost of the next best alternative use of money, time, or resources when one choice is made rather than another. When Jesse made his choice and decided to purchase the jeans, his opportunity cost was the next best choice–the soccer ball or the CD player–that he gave up.

Suppose you spend $5,000 on a used car. The opportunity cost of the purchase is the value of the stereo, apartment, vacation, or other items and activities that you could have purchased with the money spent on the car.

Even time has an opportunity cost, although you cannot always put a monetary value on it. The opportunity cost of taking an economics class, for example, is the history or math class that you could not take at the same time. Thus, part of making economic decisions involves recognizing and evaluating the cost of the alternatives as well as making choices from among the alternatives.

ECONOMICS AT A GLANCE

Figure 1.5

Jesse's Decision-Making Grid

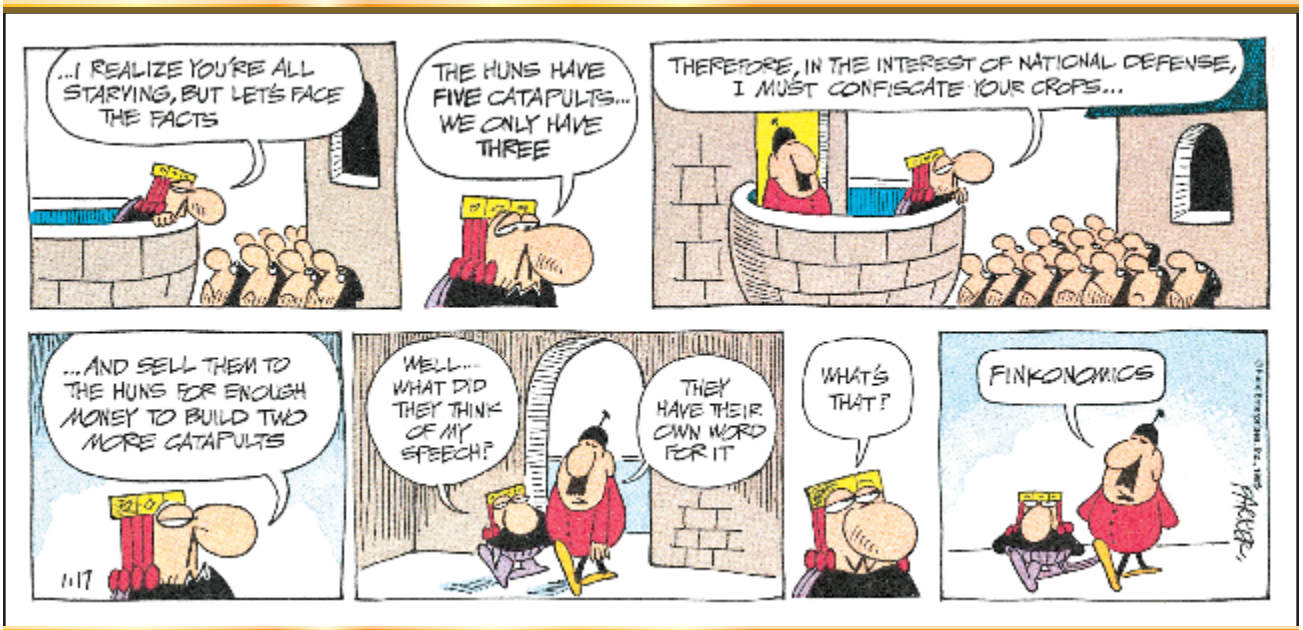
Alternatives	Criteria				
	Costs $50 or less?	Durable?	Will parents approve?	Future expense unnecessary?	Can use anytime?
Several CDs	yes	yes	yes	yes	no
Concert tickets	yes	no	no	no	no
CD player	yes	yes	yes	no	yes
Soccer ball	yes	yes	yes	yes	no
Jeans	yes	yes	yes	yes	yes

Adapted from *A Framework for Teaching Basic Economics,* Economics America National Council on Economic Education, 1996

Using Tables A decision-making grid is a good way to list and then evaluate alternatives when a decision must be made. **What do economists mean when they talk about costs?**

CONTENTS

Economic Choices



Trade-Offs In this cartoon, the king faces a trade-off between crops and catapults. ***What is the opportunity cost of obtaining two more catapults?***

Production Possibilities

A popular model economists use to illustrate the concept of opportunity cost is the **production possibilities frontier,** a diagram representing various combinations of goods and/or services an economy can produce when all productive resources are fully employed. In the classic example shown in **Figure 1.6,** a mythical country called Alpha produces two goods–guns and butter.

Identifying Possible Alternatives

Even though Alpha only produces two goods, the country has a number of alternatives available to it. For example, it could choose to use all of its resources to produce 70 units of guns and 300 units of butter, which is shown as point **a** in **Panel A** of **Figure 1.6.** Or, it could shift some of its resources out of gun production and into butter, thereby moving to point **b.** Alpha could even choose to produce at point **c,** which represents all butter and no guns, or at point **e,** which is inside the frontier.

Alpha has many alternatives available to it, which is why the figure is called a production "possibilities" frontier. Eventually though, Alpha will have to settle on a single combination such as point **a, b,** or any other point on or inside the curve, because its resources are limited.

Fully Employed Resources

All points *on* the curve such as **a, b,** and **c** represent *maximum* combinations of output possible if all resources are fully employed. To illustrate, suppose that Alpha is producing at point **a** and the people would like to move to point **d,** which represents the same amount of guns, but more butter.

As long as all resources are fully employed at point **a,** however, there are no extra resources available to produce the extra butter. Therefore, point **d** cannot be reached, nor can any other point outside the curve. This is why the figure is called a production possibilities "frontier"–to indicate the maximum combinations of goods and/or services that can be produced.

Opportunity Cost

Making Choices The nation incurs opportunity costs when it makes choices. The money spent on defense cannot at the same time be spent on health services; money spent on health services cannot be spent on education, and so on. ***Why does every choice involve an opportunity cost?***

Opportunity Cost

Suppose that Alpha was producing at point **a** and that it wanted to move to point **b.** This is clearly possible so long as point **b** is not outside the frontier. As shown in **Panel B** of **Figure 1.6,** the opportunity cost of producing the 100 additional units of butter is the 30 units of guns given up.

As you can see, opportunity cost is a general concept that is expressed in terms of trade-offs, or in terms of things given up to get something else. Opportunity cost is not always measured in terms of dollars and cents. For example, you need to balance the time you spend studying and doing homework and spending time with your friends. If you decide to spend extra hours on your homework, the opportunity cost of this action is less time with your friends.

The Cost of Idle Resources

If some resources were not fully employed, then it would be impossible for Alpha to reach its potential. To illustrate, suppose that Alpha was producing at point **b** in **Panel A** of **Figure 1.6** when workers in the butter industry went on strike. Butter production would fall, causing total output to change to point **e.** The opportunity cost of the unemployed resources would be the 100 units of lost production.

Production at **e** could also be the result of other idle resources, such as factories or land that are available but are not being used. As long as some resources are idle, the country cannot produce on its frontier–which is another way of saying that it cannot reach its full production potential, although it can produce at some point inside it.

Economic Growth

The production possibilities frontier represents potential output at a given point in time. Eventually, however, population may grow, the capital stock may grow, and productivity may increase. If this happens, then Alpha will be able to produce more in the future than it can today.

The effect of economic growth is shown in **Panel C** of **Figure 1.6.** Economic growth made possible by having more resources or increased productivity causes the production possibilities frontier to move outward. Economic growth will eventually allow Alpha to produce at point **d,** which it could not do earlier.

ECONOMICS Online

Student Web Activity Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 1—Student Web Activities*** to learn more about what economists do.

CLICK HERE

CONTENTS

Thinking Like an Economist

Because economists study how people satisfy seemingly unlimited and competing wants with the careful use of scarce resources, they are also concerned with strategies that will help us make the best choices. Some of these strategies are discussed here; others will be discussed in later chapters.

Build Simple Models

One of the most important strategies of economists is the economic model. A model is a simplified theory or a simplified picture of what something is like or how something works. Simple models can often be constructed that reduce complex situations to their most basic elements. To illustrate, the circular flow diagram in **Figure 1.3** is an example of how complex economic activity can be reduced to a simple model.

Another basic model is the production possibilities frontier illustrated in **Figure 1.6.** Realistically, of course, economies are able to produce more than two goods or services, but the concepts of trade-offs and opportunity costs are easier to illustrate if only two products are examined. As a result, simple models such as these are sometimes all that economists need to analyze or describe an actual situation.

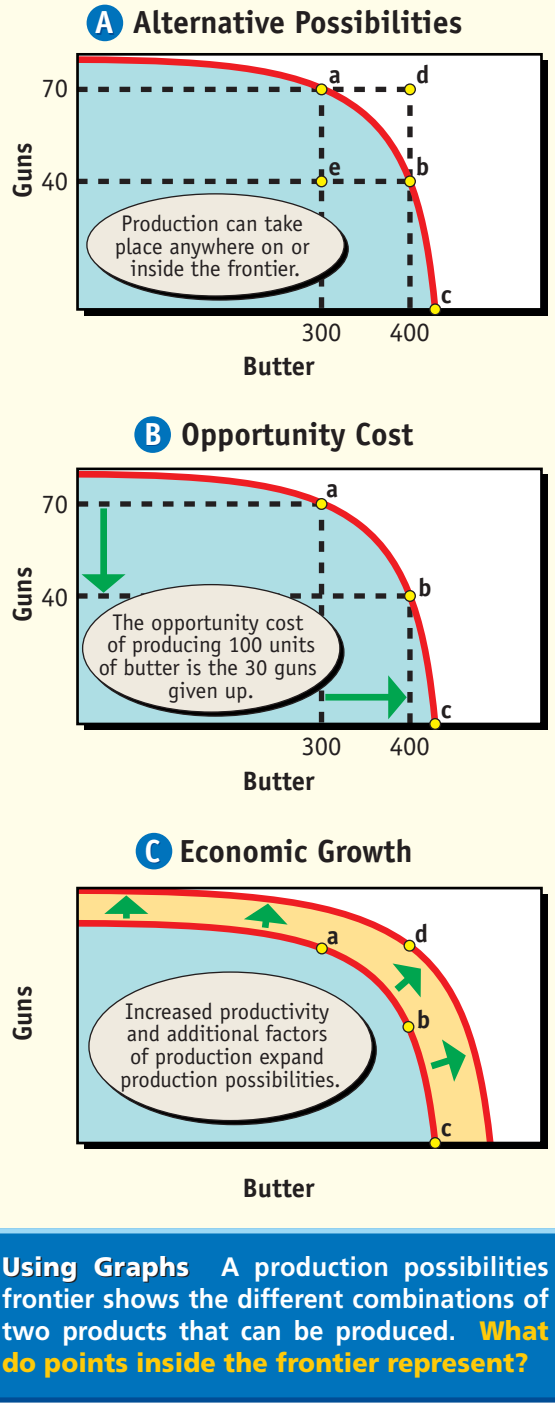
It is important to remember that models are based on assumptions, or things that we take for granted as true. We use them as facts even though we can't be sure that they are. For example, you might assume that a restaurant is out of your price range. You might not even try it because you assume you cannot afford it. However, you might be wrong–the prices at the restaurant might be quite reasonable. The quality of a model is no better than the assumptions that it is based on.

It is also important to keep in mind that models can be revised. Economists use models to better understand the past or present and to predict the future. If an economic model results in a prediction that turns out to be right, the model can be used again. If the prediction is wrong, the model might be changed to make better predictions the next time.

ECONOMICS AT A GLANCE

Figure 1.6

The Production Possibilities Frontier



Using Graphs A production possibilities frontier shows the different combinations of two products that can be produced. **What do points inside the frontier represent?**

CONTENTS

Employ Cost-Benefit Analysis

Most economic decisions can be made by using **cost-benefit analysis,** a way of thinking about a problem that compares the costs of an action to the benefits received. This is what Jesse did in the decision-making matrix shown in **Figure 1.5.** This decision can be made subjectively, as when Jesse selected the jeans. Or, the decision can be more formal, especially if the costs of the various alternatives are different.

To illustrate, suppose that you like choices A and B equally well. If B costs less, however, then it would be the better choice because you would get more satisfaction per dollar spent. Businesses make investment decisions in exactly this manner, choosing to invest in projects which give the highest return per dollar spent. Cost-benefit studies, like the one described in the cover story, can also be used to evaluate the effectiveness of many public assistance programs.

Careers

Economist

Economists study the way society distributes scarce resources to produce goods and services. They carry on inquiries, collect and analyze data, and observe economic trends.

The Work

Economists in the private sector advise businesses and other organizations on such topics as energy costs, inflation, imports, and employment levels. Those who work for various government agencies may study economic conditions in the United States or in other countries to estimate the economic effects of new legislation or public policies.

Qualifications

Graduate training is required for most economists in the private sector. Individuals who wish to secure an entry-level job in the federal government must have a bachelor's degree, with a focus on economics and on statistics, accounting, or calculus.

Take Small, Incremental Steps

Finally, and whenever possible, it also helps to make decisions by taking small, incremental steps toward the final goal. This is especially valuable whenever we are unsure of the exact, or total, cost involved. If the cost turns out to be larger than we anticipated, then the resulting decision can be reversed, without too much being lost.

For example, if someone offers you a hot beverage, it might be best to take a small sip first. This will allow you to find out if the beverage is cool enough to drink, without paying too high a price if it is not. Few decisions are all-or-nothing decisions–sometimes it helps to do a little bit at a time.

The Road Ahead

The study of economics does more than explain how people deal with scarcity. Economics also includes the study of how things are made, bought, sold, and used. It helps answer such questions as, Where do these products come from? Who makes them? How are they made? How do they get to the stores? Who buys them? It provides insight as to how incomes are earned and spent, how jobs are created, and how the economy works on a daily basis. It also provides a more detailed understanding of a **free enterprise economy**–one in which consumers and privately owned businesses, rather than the government, make the majority of the WHAT, HOW, and FOR WHOM decisions.

Topics and Issues

The study of economics will provide a working knowledge of property rights, competition, supply and demand, the price system, and the economic incentives that make the American economy function. Along the way, topics such as unemployment, the business cycle, inflation, productivity, and economic growth will be covered. The role of business, labor, and government in the American economy also will be examined, along with the relationship of the United States economy to the international community. All of these have a bearing on our

standard of living–the quality of life based on the possession of the necessities and luxuries that make life easier. You will learn how we measure the value of our production and how productivity helps determine our standard of living. You will find, however, that the way the American people make economic decisions is not the only way to make these decisions. Economists have identified three basic kinds of economic systems. You will analyze these systems in Chapter 2.

Economics for Citizenship

The study of economics helps us to become better decision makers–both in our personal lives and in the voting booths. Economic issues often are debated during political campaigns, and we need to understand the issues before deciding which candidate to support. Most of today's political problems have important economic aspects: How important is it that we balance the federal budget? How can we best keep inflation in check? What methods can we use to strengthen our economy? The study of economics will not provide you with clear-cut answers to all questions, of course, but it will give you a better understanding of the issues involved.

Making the Rational Choice

You have already learned in this chapter that economists study how decisions are made. Every time a choice is made something is given up. Rational choice is taking the things with greater value and giving up those with lesser value. That's the rational thing to do.

But which things have greater value? If everyone felt the same about what they did and did not want, deciding how to use our resources would be simple; the problem is we don't all agree. When you make a decision for yourself alone, it doesn't make much difference how others feel. But many of your decisions will affect other people who may not share your ideas. Making the best choices for groups of people is hard to do.

Textbook economics can be divided into neat sections for study, but the real world is not so orderly. Society is dynamic and things are always changing. In addition, people have different degrees of ambition, strength, and luck. Opinions also differ, and some issues never seem to be settled.

In practice, the world of economics is complex and the road ahead is bumpy. Studying and understanding economics, however, is vital to our understanding of how the world around us works.

Section 3 Assessment

Checking for Understanding

1. **Main Idea** Using your notes from the graphic organizer activity on page 19, explain what people try to achieve when they make decisions or trade-offs.
2. **Key Terms** Define trade-offs, opportunity cost, production possibilities frontier, cost-benefit analysis, free enterprise economy, standard of living.
3. **Describe** the relationship between trade-offs and opportunity costs.
4. **List** the decision-making strategies that economists use.
5. **Explain** why the study of economics is important to the American free enterprise system.

Applying Economic Concepts

6. **Opportunity Costs** Identify several possible uses of your time that will be available to you after school today. What will you actually do, and what will be the opportunity cost of your decision? Explain how your decision will or will not affect your friends and members of your family.

Critical Thinking

7. **Making Generalizations** Study the decision-making grid on page 20. Explain the advantages of using such a grid to evaluate alternatives.

Practice and assess key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2.*

CRITICAL THINKING

Skill

Sequencing and Categorizing Information

Sequencing involves placing facts in the order in which they occur. *Categorizing* entails organizing information into groups of related facts and ideas. Both actions help you deal with large quantities of information in an understandable way.

Learning the Skill

Follow these steps to learn sequencing and categorizing skills:

- Look for dates or clue words that provide you with a chronological order: *in 2004, the late 1990s, first, then, finally,* and so on.

Steelworker tends blast furnace

- If the information does not happen in sequence, you may categorize it instead. To do so, look for information with similar characteristics.
- List these characteristics, or categories, as the headings on a chart.
- As you read, fill in details under the proper category on the chart.

Practicing the Skill

Read the excerpts that follow, compare the information they contain, then answer the questions.

Excerpt A

In the 1950s and early 1960s, the United States dominated the world steel market. However, construction of new facilities in other countries hurt the domestic steel industry in the 1980s. During the next ten years, U.S. steel firms improved production methods and reduced hourly wages. By 1990 the number of work-hours required to produce a ton of steel fell from 10.5 in 1980 to just 5.3 in 1990. Trade protection, beginning with the 1947 General Agreement on Tariffs and Trades, and later agreements protected many American jobs.

Excerpt B

Competition is the rivalry among producers or sellers of similar goods to win more business by offering the lowest prices or best quality. In many industries effective competition requires a large number of independent buyers and sellers. This large number of competitors means that no one company can noticeably affect the price of a particular product. Competition also requires that companies can enter or exit any industry they choose. Those who feel they could make more profit in another industry are free to get out of the industry they are in.

1. Which passage's information can be organized sequentially? List the main ideas in chronological order.
2. What categories can you use to organize the information in the other excerpt?

Application Activity

Find two print or internet articles about an important local economic issue. Sequence or categorize the information on note cards or in a chart.

Practice and **assess** key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2.*

Chapter 1 Summary

Section 1

Scarcity and the Science of Economics (pages 5–10)

- The basic economic problem of **scarcity** is due to the combination of people's seemingly unlimited wants and relatively scarce resources.
- In a world of scarce resources, **T**here **I**s **N**o **S**uch **T**hing **A**s **A** **F**ree **L**unch (TINSTAAFL).
- Because of scarcity, society has to decide WHAT, HOW, and FOR WHOM to produce.

- **Land, capital, labor,** and **entrepreneurs** are the four **factors of production** required to produce the things that people use.
- Entrepreneurs are risk-taking individuals who go into business in order to make a profit; they organize the other factors of production.
- The scope of economics deals with description, analysis, explanation, and prediction.

Section 2

Basic Economic Concepts (pages 12–17)

- **Consumers** use **goods** and **services** to satisfy their **wants** and **needs.**
- Something has **value** when it has **utility** and is relatively scarce.
- Wealth consists of products that are scarce, useful, and transferable to others, but wealth does not include services, which are intangible.
- **Markets** link individuals and businesses in the circular flow of economic activity; the factors of production are traded in **factor markets;** goods and services are traded in the **product markets.**
- **Productivity** and investments in **human capital** help economic growth; investments in human capital are among the most profitable of all investments.
- Increases in **specialization** and **division of labor** cause more **economic interdependence.**

Section 3

Economic Choices and Decision Making (pages 19–25)

- The **opportunity cost** of doing something is the next best alternative, or **trade-off,** that you give up.
- A decision-making grid can be used to help evaluate alternatives.
- A **production possibilities frontier** shows the various possible combinations of output that can be produced when all resources are fully employed; production inside the frontier occurs when some resources are idle or are not being used to their maximum capability.
- When economic growth takes place, the production possibilities frontier shifts outward, showing that more products are produced than before.
- The economic way of thinking involves simplification with model building, **cost-benefit analysis** to evaluate alternatives, and incremental decision making.
- The study of economics will make you a better decision maker and will help you to understand the world around you; however, the study of economics will not tell you which decisions to make.

- The study of economics helps people understand how a **free enterprise economy** makes the WHAT, HOW, and FOR WHOM decisions.

Chapter 1 Assessment and Activities

Self-Check Quiz Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 1—Self-Check Quizzes*** to prepare for the chapter test.

Identifying Key Terms

Write the key term that best completes the following sentences.

capital goods
consumer goods
consumers
factors of production
human capital
opportunity cost
scarcity
services
utility
value

1. Economic products designed to satisfy people's wants and needs are called _____ .
2. The _____ of a CD player can be expressed in dollars and cents.
3. Haircuts, repairs to home appliances, and entertainment are examples of _____ .
4. _____ arises because society does not have enough resources to produce all the things people would like to have.
5. The _____ of going to a football game instead of working would include the money not earned at your job.
6. _____ is the sum of the skills, abilities, health, and motivation of people.
7. _____ is another name for the capacity of a product to be useful.
8. The only factors of production that are themselves the result of earlier production are _____ .
9. Land, capital, labor, and entrepreneurs are _____ .
10. People who use goods and services to satisfy their wants and needs are called _____ .

Reviewing the Facts

Section 1 (pages 5–10)

1. **Identify** the cause of scarcity.
2. **List** the three basic economic questions that every society must face.
3. **Describe** the factors of production required to deliver a service like education.
4. **Explain** why economics is considered a social science.

Section 2 (pages 12–17)

5. **Describe** the relationship between goods, services, and consumers.
6. **Explain** why services are excluded from the measure of wealth.
7. **Distinguish** between product markets and factor markets.
8. **Explain** why economists argue that productivity is important.

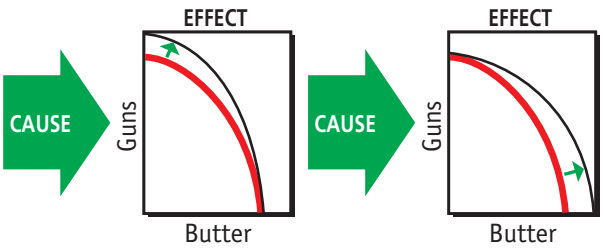
Section 3 (pages 19–25)

9. **Describe** the nature of an opportunity cost.
10. **Identify** the economic concept illustrated by the production possibilities frontier.
11. **Describe** incremental decision making.
12. **Explain** why economic education is important.

Thinking Critically

1. **Understanding Cause and Effect** Suppose that Alpha, shown in Figure 1.6 on page 23, decided to produce more guns and less butter. What would Alpha have to do to make the change? What would be the opportunity cost of producing more guns? What conditions would have to be met for the new mix of guns and butter to be on the production possibilities frontier?

2. **Understanding Cause and Effect** Copy the two diagrams of the production possibilities frontiers shown below. Then, write captions that explain what each diagram is showing.



Applying Economic Concepts

1. **Scarcity** What three choices must a society make because of scarcity?
2. **Utility** How is a product's utility related to its value?
3. **Cost-Benefit Analysis** How would you apply the concept of cost-benefit analysis to the decision to finish high school? To further your education?

Math Practice

A city administrator with a $100,000 annual budget is trying to decide between fixing potholes or directing traffic at several busy intersections after school. Studies have shown that 15 cars hit potholes every week, causing average damages of $200. Collisions at the intersections are less frequent, averaging one per month at an average cost of $6,000, although none have ever caused injuries or deaths. Use this information to answer the following questions.

1. What are the annual costs from the pothole damage?
2. What are the annual costs due to damage from collisions?
3. Given the size of the annual budget, make your recommendation as to which project should be undertaken. Explain you answer in terms of dollar benefits per dollar spent.

Thinking Like an Economist

Use a problem-solving process to gather information about the alternatives, trade-offs, and opportunity costs facing the city administrator. List and consider possible options the administrator may choose to implement. Consider the advantages and disadvantages of implementing the possible solutions.

Technology Skill

Using a Spreadsheet Keep track of your economic decisions for one week. Use your data to create a spreadsheet, highlighting your weekly spending habits.

1. In cells B1 through E1, type *Food, Clothing, Entertainment,* and *Other.* In cell F1, type *Total.*
2. In cells A2 through A8, type the days of the week, starting with *Monday* in cell A2. In cell A9, type *Total.*
3. In cells B2 through E2, enter the amount spent in each category on Monday.
4. In cell F2, use a formula such as =SUM(B2:E2) to calculate total expenditures on Monday. Click and drag this formula to cells F3 through F8 to find the other weekday sums.
5. Compute total expenditures for cells B9–F9.

Building Skills

Sequencing and Categorizing Information
Identify a reasonably large purchase you recently made or are about to make. What are the trade-offs involved, and what are the criteria you use to evaluate the alternatives? On a separate sheet of paper, illustrate your decision in the form of a decision-making grid like the one below.

Decision-Making Grid				
Alternatives	Criteria 1	Criteria 2	Criteria 3	Criteria 4

Practice and **assess** key social studies skills with the *Glencoe Skillbuilder Interactive Workbook, Level 2.*

ECONOMICS WORKSHOP IN ACTION

Working with Resource Scarcity

From the classroom of . . .
Douglas Ide
Mt. Ararat High School
Topsham, Maine

Our resources are limited while our wants are relatively unlimited. In this workshop, you will experiment with methods to overcome the problem of scarcity. You will also answer the three fundamental questions of economics: what to produce, how to produce it, and how to distribute what you produce. Finally, you will analyze why it is important to determine the answers to these questions.

Setting Up the Workshop

For this activity you will need:

- small paper "lunch" bags
- miniature chocolate bars
- marshmallows
- graham crackers

Procedures

STEP 1

Review the concept of scarcity with your group. Remember that scarcity is the economic term that describes a situation where there are not enough products available to satisfy people's needs or wants. Discuss why scarcity *always* exists.

STEP 2

Review the concept of production. Note that production—the creation of goods and services—requires four factors.

The Four Factors of Production:

- Natural Resources
- Labor
- Capital
- Entrepreneurship

STEP 3

Your teacher will provide you with your group's "resources." Do not open the bag.

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STEP 4

Read and discuss these instructions:

This bag contains your resources. You must use these resources and no other, but you may use them in any way you choose. The resources are exactly what they appear to be: chocolate, marshmallows, and graham crackers; they may not be used to represent anything other than that.

STEP 5

Open your bag and study the contents. Discuss what item or items your group can produce with these "resources." Due to **scarcity,** your group may have difficulty in producing one complete unit of "product" for each group member.

STEP 6

Compare the available resources in your bag to the "demand" for the finished product. How many units can be produced? How will you produce them? How will you distribute them? (e.g. Will each member of the group receive a completed unit, or will only some of the members receive the product? If not everyone receives one, how will you determine who receives one?)

Summary Activity

Once you've produced the product, answer the following questions. Take notes as you determine the answers.

1. What was your first thought when you opened the bag and examined the amount of resources?
2. What did you then have to decide?
3. Why did you have to think about how to produce them, and how they would be distributed?
4. Were each of the four factors of production used in making your product?
5. What resources were used?
6. What type of skills and tools did the workers need?
7. Create a chart showing the factors of production that are combined into different consumer products that the members of your group buy.