Chapter 1

Essential Questions

UNIT 1:
How does economics affect everyone?

CHAPTER 1:
How can we make the best economic choices?

Introduce the Chapter

ACTIVATE PRIOR KNOWLEDGE

In this chapter students will learn how individuals, businesses, and governments make economic choices. Tell students to complete the warmup activity in the Essential Questions Journal.

DIFFERENTIATED INSTRUCTION KEY

[Special Needs]
[Basic]
[ELL] English Language Learners
[LPR] Less Proficient Readers
[All Students]
[Advanced Students]


• The Wall Street Journal Classroom Edition Video presents a current topic related to making economic decisions.
• Yearly Update Worksheet provides an annual update, including a new worksheet and lesson on this topic.
• On the Go resources can be downloaded so students and teachers can connect with economics anytime, anywhere.

NGSSS

Next Generation Sunshine State Standards

Section 1: LA.1112.1.6, SS.912.E.1.1, SS.912.E.2, SS.912.E.2.3
Section 2: LA.1112.1.6, SS.912.E.1.1, SS.912.E.1.7, SS.912.E.3.6
Section 3: LA.1112.1.6, MA.912.A.2, SS.912.E.1.2, SS.912.E.2.3

Block Scheduling

BLOCK 1 Teach lessons for Sections 1 and 2, briefly introducing the Section 2 material on trade-offs and focusing on opportunity cost.

BLOCK 2 Teach the Section 3 lesson, omitting the Extend activity.

Pressed for Time

Visual resources Use How the Economy Works, the Visual Glossary, and the Action Graphs Online to help students master the main concepts from the chapter: factors of production, opportunity cost, and production possibilities curves.
**Economics and You**  
There are so many ways you could spend your money. You really want that new video game. You also want to attend an upcoming concert. At the same time, you need to pay your car insurance. With limited funds, you can't have it all. How will you choose? What’s true for you is also true for your neighbors, your school, the gas station on the corner, a major television network, and the U.S. Congress. Economics is the study of how individuals, businesses, and governments make choices when faced with a limited supply of resources.

**Scarcity and Choice**  
The study of economics begins with the fact that people cannot have everything they need and want. A need is something essential for survival such as food or medical care. A want is something that we desire but that is not necessary for survival, such as video games or stylish haircuts. People satisfy their needs and wants with goods and services. Goods are physical objects that someone produces, such as food, clothing, or video games. Services are actions or activities that one person performs for another. Medical care and haircuts are services.

**Needs and Wants**  
A need is something essential for survival; a want is something desired but not essential.  

- **A. Definition:**  
  - need: something essential for survival  
  - want: something that people desire but that is not necessary for survival

- **B. Unlimited**  
  - A need is something essential for survival; a want is something desired but not essential.  
  - Examples: medical care; example of a want: video games

- **C. Examples:**  
  - Examples: land, labor, and capital (physical and human)
**Bellringer**
Put a line on the board, with the word need on the left end and want on the right. Then write the words car, water, and flowers on the board. Ask students to copy this into their notebook, and place the items on the spectrum. Have them jot down why they placed the item where they did on the line.

**Teach**

To present this topic using digital resources, use the lecture notes on www.PearsonSchool.com/PHecon.

**ELL LPR Differentiate** To help students who are struggling readers, assign the Vocabulary worksheet (Unit 1 All-in-One, p. 12).

**Interpret**
Have students explain why they decided an item was a need or a want. Did any items show up on both sides of the line? Give students time to discuss how a car could be both a need (transportation to work) and a want (if public transportation were available). Have students consider other goods or services that could be identified in both categories.

Ask students to give examples of scarcity that they have faced. How did they make their choices?

**Differentiate** To reinforce the difference between shortage and scarcity, explain that musical chairs represents a shortage. To show scarcity, tell students that in 24 hours, they have to accomplish 7 tasks, each requiring 4 hours. Ask What resource is scarce? (time) How will scarcity affect what they can do? (They will have to choose which task will not be accomplished.)

**How the Economy Works**
Direct students to the How the Economy Works feature. Ask What does an entrepreneur need to be successful? (an idea, research, factors of production) What personality traits do you think an entrepreneur has? (risk taker, creative, determined) Organize students into small groups to brainstorm a new business idea. Ask them to list the factors of production needed to meet the need or want. Then ask Which factor would be the easiest to obtain? Which would be the most difficult? How did the economic concept of scarcity determine your answers?

**Answer**

Checkpoint Economics focuses on how people seek to meet their unlimited needs and wants by making choices among scarce resources.

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**Checkpoint** What is the main focus of economics?

**Differentiated Resources**

- **Guided Reading and Review** (Unit 1 All-in-One, p. 14)
- **Vocabulary worksheet** (Unit 1 All-in-One, p. 12)
- **Mark Zuckerberg, CEO of Facebook** (Unit 1 All-in-One, p. 16)
- **Factors of Production in the Global Economy** (Unit 1 All-in-One, p. 17)
Entrepreneurs and the Factors of Production

How are scarce resources turned into goods and services? Entrepreneurs play a key role. Entrepreneurs are people who decide how to combine resources to create new goods and services. To make a profit, entrepreneurs are willing to take risks. They develop new ideas, start businesses, create industries, and fuel growth.

Anyone who opens a business, large or small, is an entrepreneur. Jean-Baptiste Say, an eighteenth-century French economist, thought the risk-taking entrepreneur so important that he should be considered a fourth factor of production.

The first task facing an entrepreneur is to assemble factors of production, or the resources used to make all goods and services. The three main factors of production are land, labor, and capital.

Land

Economists use the term land to refer to all natural resources used to produce goods and services. Natural resources are any materials found in nature that people use to make things or to provide services. These resources include fertile land for farming, as well as resources found in or on the land such as oil, iron, coal, water, and forests.

Labor

The second factor of production is labor. Labor is the effort people devote to tasks for which they are paid. Labor includes the medical care provided by a doctor, the classroom instruction provided by a teacher, and the tightening of a bolt by an assembly-line worker. Labor is also an artist’s creation of a painting or a technician’s repair of a television.

Entrepreneur

An entrepreneur is a person who decides how to combine resources to create goods and services.

Factors of production are the resources that are used to make goods and services.

Check Your Understanding

1. How will reading and other types of self-education help this entrepreneur succeed?
2. What impact does the concept of scarcity have on the decisions made by an entrepreneur?

Background Note

Jean-Baptiste Say

Jean-Baptiste Say was a nineteenth-century classical economist and businessman. He was influenced by Adam Smith’s laissez-faire ideas and spread these ideas in Europe and North America. Say is best known for Say’s Law, which states that “supply creates its own demand.” This is most commonly interpreted to mean that production of one kind of good facilitates the production of other goods. When a producer receives money for a good, that producer is able and likely to spend the money on other goods. In this way, the supply created by the producer is increasing demand for other goods. Say is also credited with having coined the term entrepreneur.

Distribute Activity Worksheet

Distribute the “Mark Zuckerberg, CEO of Facebook” worksheet (Unit 1 All-in-One, p. 16).

ELL Differentiate Pair English learners with language proficient students to answer the questions on the worksheet.

Differentiate Have students write a paragraph explaining who they think took the bigger risk—Zuckerberg or the venture capitalist who agreed to fund his startup efforts. Tell them to give reasons to support their responses.

Answers

Check Your Understanding

Possible answers:
1. Kelly will learn more about how to make the smoothies nutritious; she can experiment with recipes to improve the product; she can learn about the best ways to start and run a small business.
2. An entrepreneur has to decide how to best combine limited resources to meet a need or want.
EXTEND
Ask students to imagine that they are planning a new housing development. **What needs and wants would the community have?** *(Needs could be a water source, electricity; wants could be a pool, train access.)* The housing development has been changed to a retirement community. **How would the needs and wants change?** Use this discussion to help students understand that needs, wants, and resources change depending on the situation.

L4 Differentiate Assign the “Factors of Production in the Global Economy” worksheet (Unit 1 All-in-One, p. 17). Discuss the questions with the students, having them focus on how the global economy changes the availability of different factors of production.

GUIDING QUESTION WRAP UP
Have students return to the section Guiding Question. Review the completed graphic organizer and clarify any misunderstandings. Have a wrap up discussion about how scarcity forces people to make choices.

Assess and Remedy
L2 L3 Collect the “Mark Zuckerberg, CEO of Facebook” worksheet and assess student understanding of the role of entrepreneurs.

L4 Collect the “Factors of Production in the Global Economy” worksheet and assess student understanding.

L3 Section 1 Assessment
L3 Give Section Quiz A (Unit 1 All-in-One, p. 18).

L2 Give Section Quiz B (Unit 1 All-in-One, p. 19).

(Assess and Remediate continued on p. 7)

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**Answer**

Global Impact Possible responses: higher rates of disease and death; conflict among those who share water supplies; crops cannot be grown but must be imported.

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Virtual Economics

L2 Differentiate

Exploring Scarcity Use the following lesson from the NCCE Virtual Economics CD-ROM to define scarcity and determine how it can be an opportunity. Click on Browse Economics Lessons, specify grades 9–12, and use the key words everyone’s problem.

In this activity, students will analyze the concept of scarcity in goods and services and evaluate the opportunities it presents to entrepreneurs.

<table>
<thead>
<tr>
<th>LESSON TITLE</th>
<th>SCARCITY: EVERYONE’S PROBLEM IS THE ENTREPRENEUR’S OPPORTUNITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Activity</td>
<td>Classifying</td>
</tr>
<tr>
<td>Complexity</td>
<td>Low</td>
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<tr>
<td>Time</td>
<td>100 minutes</td>
</tr>
<tr>
<td>NCCE Standards</td>
<td>1</td>
</tr>
</tbody>
</table>
Assessment Answers

1. Because resources are scarce, people cannot satisfy all their needs and wants.
2. Possible response: I had enough money to buy an MP3 player or a camera, so I bought the MP3 player.
3. Goods are physical objects someone produces. Services are actions someone does for another.
4. Scarcity is constant; shortages occur when people want more of an item than producers will provide at a particular price.
5. They combine resources to provide goods and services.
6. This can lead to savings in other factors of production.
7. (a) land; (b) physical capital; (c) labor; (d) physical capital; (e) human capital
8. Possible response: It may not have the money to buy new ones every year.
9. Possible response: I took the bus. The trip used land (oil); labor (driver’s work); and capital (gasoline, roads, the bus, the bus driver’s expertise at driving).
10. Possible response: Entrepreneurs risk losing the money they invest for the possible reward of financial gain. Students’ paragraphs should note such contributions as developing original ideas and starting new businesses that create a variety of goods and services, employing people in the process.
Guiding Question

How does opportunity cost affect decision making?

Get Started

LESSON GOALS
Students will:

• Know the Key Terms.
• Analyze the trade-offs involved in decision making.
• Explain how changing economic factors can change decisions and opportunity costs.
• Provide examples of decision making at the margin.

BEFORE CLASS
Students should read the section for homework before coming to class.

Have students complete the graphic organizer as they read the text. As an alternate activity, have students complete the Guided Reading and Review worksheet (Unit 1 All-in-One, p. 20).

ELL PR Differentiate Have students complete the Guided Reading and Review worksheet (Unit 1 All-in-One, p. 21).

Focus on the Basics

Students need to come away with the following understandings:

FACTS:
• Each choice we make involves trade-offs, giving up one benefit for another.
• Opportunity cost is the single most desirable alternative given up due to a trade-off.
• Thinking at the margin involves deciding whether to use one more or one less unit of a resource.

GENERALIZATION: Every economic decision we make involves trade-offs; the most desirable choice given up is the opportunity cost.

ECONOMIC DICTIONARY
As you read the section, look for the definitions of these Key Terms:

• trade-off
• opportunity cost

NGSSS

LA.1112.1.6 Use multiple strategies to develop vocabulary.
SS.912.E.1.1 Identify factors of production and their necessity to making goods and services.
SS.912.E.1.7 Graph and explain how price is determined through marginal cost analysis.
SS.912.E.3.6 Draw conclusions about historical economic theories of economists.

Economics and You

You are cleaning your bedroom. Boxes, clothes, and other items cover your bed, the floor, the entire room. Suddenly, your phone rings and a friend invites you to a party. You consider your options and quickly decide that going to the party will be more fun than cleaning your room.

Later, tired but happy, you enter your bedroom and realize that you now have to clear off your bed when all you want to do is sleep. Your decision to go to the party cost you the time you needed to clean up your room. Was the benefit of your choice worth the cost?

Principles in Action Every time we choose to do something, we give up the opportunity to do something else. As you will see, even such a simple decision as how late to sleep in the morning involves weighing costs and benefits. The Economics & You feature shows how scarcity and choice can affect the ways you spend your time and what services your community provides.

Trade-Offs

Economists point out that all individuals, businesses, and large groups of people—even governments—make decisions that involve trade-offs. A trade-off is the act of giving up one benefit in order to gain another, greater benefit. Trade-offs often involve things that can be easily measured, such as money, property, or time. But trade-offs may also involve values that are not so easy to measure. Such intangibles include enjoyment, job satisfaction, or the feeling of well-being that comes from helping somebody.

Individuals and Trade-Offs

At every stage of life, you have to make trade-offs. Taking a part in the school play prevents you from playing soccer or getting a part-time job. A few years from now, you might decide to turn down an exciting but low-paying job in favor of a less interesting job that pays better. Still later, you may choose to give up a vacation in order to put more money away for your retirement.
Businesses and Trade-Offs

The decisions that businesses make about how to use their factor resources—land, labor, and capital—also involve trade-offs. A farmer who plants broccoli cannot at the same time use the same area of land to grow squash. A furniture company that decides to use all of its equipment to make chairs eliminates the possibility of using the same equipment to build tables or desks.

Governments and Trade-Offs

National, state, and local governments also make decisions that involve trade-offs. Economists and politicians use the term "guns or butter" to describe one of the common choices facing governments: the choice between spending money on military or domestic needs. A country that decides to produce more military goods ("guns") has fewer resources to devote to consumer goods ("butter") and vice versa. The steel needed to produce a tank cannot then be used to produce a tractor.

In November 2007, as U.S. troops fought in Iraq, one commentator described the tough choice facing American leaders and voters:

"Like Santa with a wish list that cannot be satisfied, the country enters the New Year with a needs list that far exceeds our revenue sources. It appears once again that it is time to wage the debate of guns or butter... Citizens are simultaneously confronted with funding a war abroad and dealing with rising health costs, increased fuel costs and declining human services at home."

—Charles Bogus, "Guns or Butter," Mapa Valley Register

In the end, the reason for the "guns or butter" trade-off is the same as the reason for any other trade-off: scarcity.

**Checkpoint** What are trade-offs?

Determining Opportunity Cost

In most trade-offs, one of the rejected alternatives is more desirable than the rest. The most desirable alternative somebody gives up as the result of a decision is the opportunity cost. Take the farmer in the example above. If squash was the most profitable alternative to broccoli, then the opportunity cost of deciding to plant broccoli was the chance to plant squash.

Every decision we make involves trade-offs. That's why they can be difficult. Describe one decision you made this week. Identify the trade-offs involved.

"guns or butter" a phrase expressing the idea that a country that decides to produce more military goods ("guns") has fewer resources to produce consumer goods ("butter") and vice versa.

**Opportunity Cost** the most desirable alternative given up as the result of a decision.

**SS.912.E.3.6** Draw conclusions about historical economic theories of economists.

**Differentiated Resources**

- **Guided Reading and Review** (Unit 1 All-in-One, p. 21)
- **Trade-Offs** (Unit 1 All-in-One, p. 23)
- **Price and Opportunity Cost** (Unit 1 All-in-One, p. 24)
- **Decision Making skills worksheet** (Unit 1 All-in-One, p. 26)

**Chapter 1 • Section 2**

**Bellringer**

Have students think of recent decisions they made and what they had to give up as a result.

**Teach**

**Economics Online** To present this topic using digital resources, use the lecture notes on www.PearsonSchool.com/PHecon.

**Analyze**

Create a chart on the board with three columns labeled Decision, Alternatives, and Opportunity Cost. Have volunteers from the class fill in the first two columns with their answer from the Bellringer activity. Ask students Which of the alternatives you gave up was the most desirable? Write these answers in the Opportunity Cost column.

**Distribute Activity Worksheet**

Distribute the “Trade-Offs” activity worksheet (Unit 1 All-in-One, p. 22). Review the definitions of trade-off and opportunity cost. Tell students that they will analyze a political cartoon about choices and the trade-offs involved.

**Differentiate** Distribute the “Trade-Offs” activity worksheet (Unit 1 All-in-One, p. 23). After students have completed the worksheet, ask How do all decisions involve trade-offs? (lesson continued on p. 11)

**SS.912.E.3.6** Draw conclusions about historical economic theories of economists.

**Answers**

**Checkpoint Trade-offs** are the decisions we make to give up one benefit to gain another, greater benefit.

**Economics & You** Possible response: I bought tickets to see a movie. As a result I didn’t purchase a CD I want or play basketball.

Chapter 1 9
Teach Visual Glossary

REVIEW KEY TERMS
Pair students and have them write the definitions of the key terms related to the understanding of opportunity cost.

need – something essential for survival
want – something people desire but that is not necessary for survival
scarcity – the principle that limited amounts of goods and services are available to meet unlimited needs and wants
trade-off – the act of giving up one benefit to gain another, greater benefit

APPLY
Ask How does each key term apply to Karen’s situation? (Need: sleep; Want: better grade; Scarcity: time; Trade-off: gives up sleep or her grade.)
Ask What alternatives are Karen and the family in the cartoon choosing between? (Karen: sleep, grades; cartoon: money for dinner, ease of driving).
If Karen decided to sleep late, what is her opportunity cost? (study time)

Differentiate Have students create a decision-making grid for a situation from their own life. Help them use the grid to understand that there is an opportunity cost to each decision.

Differentiate Distribute the “Price and Opportunity Cost” worksheet (Unit 1 All-in-One, p. 24). Tell students that they will read a case study about genetically modified crop plants and how changes in needs and wants changed trade-offs and opportunity costs for people and businesses. Have students read the case study and answer the questions.

Answers
Decision-Making Grid extra study time
Cartoon The family decided to save money on gas by pushing the car halfway to the restaurant. The opportunity cost is the luxury of riding in the car all the way.
Using a Decision-Making Grid

At times, the opportunity cost of a decision may be unclear or complicated. Using a decision-making grid like the one in the Visual Glossary, opposite, can help you determine whether you are willing to accept the opportunity cost of a choice you are about to make.

In this particular example, a high school student named Karen is trying to decide whether to sleep late or get up early to study for a test. Because of the scarcity of time, she cannot do both.

To help her make her decision, Karen lists the benefits of each alternative on the grid. Waking up early to study will probably result in her receiving a better grade. She will also receive teacher and parental approval and experience a sense of personal satisfaction.

On the other hand, Karen enjoys sleeping. In addition, the extra sleep would give her more energy during the day. She would have to give up these benefits if she decided to get up earlier.

Making the Decision

Karen is a practical person. After considering the opportunity cost of each alternative, she decides that waking up early to study offers her the most desirable benefits. She knows that she is giving up the pleasure of more sleep and the extra energy it would provide. But she is willing to accept this opportunity cost.

If Karen faced other decisions with other opportunity costs, she might choose differently. What if the choice was between sleeping late and getting up early to have breakfast? What if her decision to sleep late or study was on a Saturday rather than on a school day? With each different set of alternatives, the possible benefits and opportunity costs change as well.

One thing does not change, though. We always face an opportunity cost. As economists say, “Choosing is refusing.” When we select one alternative, we must sacrifice at least one other alternative and its benefits.

Thinking at the Margin

When economists look at decisions, they point out one more characteristic in addition to opportunity cost. Many decisions involve adding or subtracting one unit, such as one hour or one dollar. From an economist’s point of view, when you decide how much more or less to do, you are thinking at the margin.

To understand what it means to think at the margin, think about folding a piece of paper with important notes on it to put in your pocket. If you fold the paper in half and then in half again, it can just squeeze into your pocket and will lay fairly flat. If you continued folding it in half two or three more times, it would fit more easily in your pocket. But the paper would also become more bulky with each additional fold. The question is, how many folds is the best number for fitting easily into your pocket and laying flat once inside?

Cost/Benefit Analysis

Deciding by thinking at the margin is just like making any other decision. Decision makers have to compare the opportunity costs and the benefits—what they will sacrifice and what they will gain. This decision-making process is sometimes called cost/benefit analysis.

To make rational, or sensible, decisions at the margin, you must weigh marginal costs against marginal benefits. The marginal cost is the extra cost of adding one unit, whether it be sleeping an extra hour or building one extra house. The marginal benefit is the extra benefit of adding the same unit. As long as the marginal benefits exceed the marginal costs, it pays to add more units.

Decision-Making at the Margin

Look again at the example of Karen’s decision on how late to sleep. The decision-making grid in the Visual Glossary used an “all or nothing” approach. Either Karen was going to wake up early to study, or she was going to sleep late and not study at all that morning.

In reality, Karen could have decided from among several options rather than just two. She could have decided to get up thinking at the margin the process of deciding whether to do or use one additional unit of some resource.

Cost/benefit analysis a decision-making process in which you compare what you will sacrifice and gain by a specific action.

Karen is a practical person. After considering the opportunity cost of each alternative, she decides that waking up early to study offers her the most desirable benefits. She knows that she is giving up the pleasure of more sleep and the extra energy it would provide. But she is willing to accept this opportunity cost.

If Karen faced other decisions with opportunity costs, she might choose differently. What if the choice was between sleeping late and getting up early to have breakfast? What if her decision to sleep late or study was on a Saturday rather than on a school day? With each different set of alternatives, the possible benefits and opportunity costs change as well.

One thing does not change, though. We always face an opportunity cost. As economists say, “Choosing is refusing.” When we select one alternative, we must sacrifice at least one other alternative and its benefits.

Virtual Economics

Comparing Marginal Benefits and Costs Use the following lesson from the NCEE Virtual Economics CD-ROM to help students understand marginal analysis. Click on Browse Economics Lessons, specify grades 9-12, and use the key word economic way.

In this activity, students will take part in a simulation to illustrate how marginal analysis helps people make economic decisions.

<table>
<thead>
<tr>
<th>LESSON TITLE</th>
<th>THE ECONOMIC WAY OF THINKING: THREE ACTIVITIES TO DEMONSTRATE MARGINAL ANALYSIS</th>
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<tbody>
<tr>
<td>Type of Activity</td>
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<tr>
<td>Complexity</td>
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<tr>
<td>Time</td>
<td>60 minutes</td>
</tr>
<tr>
<td>NCEE Standards</td>
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</tr>
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</table>

Answer

Checkpoint Every choice has an opportunity cost because every decision includes at least one alternative that is the next most desirable.
Checkpoint from B to B+

Have students complete the Self-Test Online and continue their work in the Essential Questions Journal.

REMEDICATION AND SUGGESTIONS
Use the chart below to help students who are struggling with content.

<table>
<thead>
<tr>
<th>WEAKNESS</th>
<th>REMEDIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defining key terms (Questions 3, 4, 5, 6)</td>
<td>Have students use the interactive Economic Dictionary Online.</td>
</tr>
<tr>
<td>Understanding opportunity cost (Questions 1, 2, 8, 10)</td>
<td>Draw a decision-making grid on the board similar to the one in the Visual Glossary. With students, complete the grid and lead them to identify the opportunity cost of each alternative.</td>
</tr>
<tr>
<td>Explaining thinking at the margin (Questions 5, 6, 9)</td>
<td>Reteach using the Skills worksheet.</td>
</tr>
</tbody>
</table>

Answers

**Graph Skills** 1. One less hour of study time and a grade of C; 1 hour of sleep 2. third hour of study compared to second hour of study costs Karen a full hour of sleep but increases her grade a partial step from a B to B+

**Checkpoint** It shows when an added unit of cost no longer provides enough benefit to be worthwhile.

**Critical Thinking**

7. Give Examples Give two examples of a decision that your school or local government might have to make. Explain how each decision involves trade-offs.

8. Analyze Identify a possible opportunity cost for each of the following choices: (a) studying for a test on a Saturday afternoon, (b) using all the money you received for your birthday to pay for downloading songs, (c) spending four hours playing a video game on a Tuesday night, (d) having four slices of pizza for lunch.

9. Make Decisions What marginal costs and benefits might a business owner have to consider when trying to decide whether to hire one, two, or three additional workers?

**Math Skills**

10. You have a part-time job where you work 10 hours a week and earn $6 an hour. A friend tells you about another job, at a restaurant, where the pay is only $4 an hour, but in 10 hours of work you can earn as much as $25 in tips. Calculate the probable hourly pay rate for each job. What is the opportunity cost of taking the restaurant job? Would you change jobs? Why or why not? Visit PearsonSchool.com/PHecon for additional math help.

**Assessment Answers**

1. Possible response: It clarifies exactly what people give up when choosing one option.
2. Possible response: I chose to buy an expensive pair of designer jeans, but then I had to buy less-expensive sneakers.
3. because resources are limited, using them one way makes them unavailable for other uses
4. Often governments have to choose between military and domestic spending because of limited revenues.

5. Many decisions involve whether to add or subtract one unit of a resource—a weighing of costs versus benefits.
6. to ensure that benefits are proportional to resources used

7. Possible responses: Building a park (trade-offs: hiring more police officers or lowering taxes); providing services to elderly (trade-offs: buying school books or repaving the streets)

8. Possible responses: (a) spending time with friends; (b) seeing a movie; (c) studying for an important test; (d) having a sandwich and a fruit salad

9. how much added output each worker would provide, compared to cost of added wages

10. The opportunity cost of the restaurant job is the potential loss of $20 a week, since tips are not guaranteed. Students may or may not change jobs, depending on how they feel about the risk.

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**Checkheets**

- From B to B+: Have students use the interactive Economic Dictionary Online.
- Understanding opportunity cost: Draw a decision-making grid on the board similar to the one in the Visual Glossary. With students, complete the grid and lead them to identify the opportunity cost of each alternative.
- Explaining thinking at the margin: Reteach using the Skills worksheet.

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**Figure 1.1** Decision Making at the Margin

<table>
<thead>
<tr>
<th>Options</th>
<th>Benefit</th>
<th>Opportunity Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st hour of extra study time</td>
<td>Grade of C on test</td>
<td>One hour of sleep</td>
</tr>
<tr>
<td>2nd hour of extra study time</td>
<td>Grade of B on test</td>
<td>2 hours of sleep</td>
</tr>
<tr>
<td>3rd hour of extra study time</td>
<td>Grade of B+ on test</td>
<td>3 hours of sleep</td>
</tr>
</tbody>
</table>

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**Essential Questions Journal**

To continue to build a response to the Essential Question, go to your Essential Questions Journal.
Economics and You

Your class decides to sponsor a community breakfast as a fundraiser. Can you make more money by serving eggs or pancakes? Should you offer both? To decide, you’ll have to look at the cost of ingredients, the number of workers you have, and the size of the kitchen. Also, does it take more time to scramble eggs or to flip pancakes? What you decide will affect how much money you make.

Nations face similar decisions about what to produce. For nations, however, the consequences of these decisions can be far more serious.

Principles in Action

To decide what and how much to produce, economists use a tool known as a production possibilities curve. You will see how an imaginary country uses this tool to decide between producing two very different products: shoes and watermelons.

Production Possibilities

Economists often use graphs to analyze the choices and trade-offs that people make. Why? Because graphs help us see how one value relates to another value. A production possibilities curve is a graph that shows alternative ways to use an economy’s productive resources. The axes of the graph can show categories of goods and services, such as farm goods and factory goods or capital goods and consumer goods. The axes can also display any pair of specific goods or services, such as hats on one axis and shoes on the other.

Drawing a Production Possibilities Curve

To draw a production possibilities curve, an economist begins by deciding which goods or services to examine. In this example, we will look at a fictional country called Capeland. Government economists in Capeland must decide whether to use the nation’s scarce resources to manufacture shoes or to grow watermelons. The economists determine that, if Capeland used all of its resources to produce only shoes, it could produce 15 million pairs of shoes. At the other extreme, if Capeland used all of its resources to produce only watermelons, it could produce 21 million tons of watermelons.

Focus on the Basics

Students need to come away with the following understandings:

FACTS: • Production possibilities curves show alternative ways to use resources. • Production possibilities curves show how efficiently an economy uses resources, results of economic growth, and costs of each production choice. • Adopting new technology can improve efficiency and create economic growth.

GENERALIZATION: Production possibilities curves are important tools for decision makers to make the most efficient use of resources.
To present this topic using digital resources, use the lecture notes on www.PearsonSchool.com/PHecon.

**REVIEW BELLRINGER**

Ask Would you assign every person to make decorations? (No; then there would be no one to make food). Then have students volunteer their answers. Point out that students divided the labor and resources to efficiently finish the job. They used the concept of a production possibilities curve without realizing it.

**CHECK UNDERSTANDING**

Remind students that all resources are scarce. A production possibilities curve helps determine the best way to allocate these scarce resources.

Direct students’ attention to Figure 1.2 in their textbook. Call on volunteers to identify the production possibilities frontier. (the red line b connecting points a and c) Ask What level of production does this line represent? (maximum production of both shoes and watermelons, using all the nation’s resources) Make sure that students understand that the values in the table were used to plot the production possibilities frontier.

**Differentiated Resources**

**L1** **L2** Guided Reading and Review (Unit 1 All-in-One, p. 30)

**L2** Kitchen Challenge (Simulation Activities, Chapter 1)

**L2** Governments Promote Technology (Unit 1 All-in-One, p. 32)

**FL** SS.912.E.1.2 Analyze production possibility curves to explain choice.

SS.912.E.1.15 Describe the risk and return profiles of various investment options.

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**Answers**

**Graph Skills** 1. 18 million tons of watermelons; 4 million fewer tons of watermelons. 2. At point d, Capeland does not produce as much of either watermelons or shoes as it could.

**Checkpoint** Each point on a production possibilities frontier shows how much of two goods can be produced with the same resources.

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**Chapter 1 • Section 3**

**BELLRINGER**

Tell students to imagine that they and two friends are planning a party for the class. Have them plan who will do what to prepare for the party.

**Teach**

**Economics**

To present this topic using digital resources, use the lecture notes on www.PearsonSchool.com/PHecon.

**Graph Skills**

The table shows six different combinations of watermelons and shoes that Capeland could produce using all of its factor resources. These figures have been used to create a production possibilities curve.

1. How much watermelon can Capeland produce if they are making 9 million pairs of shoes? What will the opportunity cost be if Capeland increases shoe production to 12 million?
2. Why would production at point d in the graph on the right represent an underutilization of resources?

**KEY**

a. No watermelons, all possible shoes
b. A production possibilities frontier
c. No shoes, all possible watermelons

d. A point of underutilization
e. Future production possibilities frontier

---

**Figure 1.2** Production Possibilities Curve

The Capeland economists use this information to create a production possibilities curve (Figure 1.2). The vertical axis of the graph represents how many millions of pairs of shoes Capeland’s factories can produce. The horizontal axis shows how many millions of tons of watermelons Capeland’s farmers can grow. At Point a, Capeland is producing 15 million pairs of shoes but no watermelons. At Point c, Capeland is producing 21 million tons of watermelons but no shoes.

There is a third, more likely alternative. The citizens of Capeland can use their resources to produce both shoes and watermelons. The table shows four different ways that Capelanders could use their resources to produce both shoes and watermelons. Using the made-up data from the table, we can plot points on the graph. This line, called the production possibilities frontier, shows combinations of the production of both shoes and watermelons. Any spot on that line represents a point at which Capeland is using all of its resources to produce a maximum combination of those two products.

**Trade-Offs**

Each point on the production possibilities frontier reflects a trade-off. Near the top of the curve, factories produce more shoes, but farms grow fewer watermelons. Further down the curve, farms grow more watermelons, but factories make fewer pairs of shoes.

These trade-offs are necessary because factors of production are scarce. Using land, labor, and capital to make one product means that fewer resources are left to make something else.

**Checkpoint** How do production possibilities curves show alternative uses of resources?
Why would production have been used to create that Capeland could produce watermelons and shoes, but no shoes.

The table shows six different combinations of resources?

When an economy grows, economists say that the production possibilities curve has "shifted to the right." To see such a shift, look at line e in Figure 1.2. Notice that the possible output of both shoes and watermelons has increased at each point along the line.

However, when a country's production capacity decreases, the curve shifts to the left. A decrease could occur, for example, when a country goes to war and loses part of its land as a result.

**ANALYZE**

To practice analyzing production possibilities curves, display the transparency “Production Possibilities Curve” (Color Transparencies, 1.a). Ask What do the red and blue lines represent? (production possibilities frontier) How do the values on the blue line compare with those on the red line? (The future production values are higher.) What does that mean? (The nation can produce more jeans or T-shirts.) What factors might cause that increased production? (immigration, updated technology, or more skilled workers)

**Differentiate** Have students research the choices that car manufacturers are making, as customers demand more fuel-efficient cars. Some companies are investing in the design of smaller cars with gas engines. Others are focusing on developing solar-powered or electric cars. Have students write a brief essay explaining how a car company could use quantitative methods, such as production possibilities curves, to help them determine the trade-offs and opportunity costs involved in their choices.

**INTERPRET**

Review the meaning of the law of increasing costs with students. Then direct students to Figure 1.3 in their textbook. Ask What happens as more land is used for farming? (Less productive land is used.) Is this an efficient use of resources? (No, the land could be used for something else.)

**Simulation Activities** In “Ki tchen Challenge” have students determine how to use available resources to plan a fund-raising breakfast.

(lesson continued on p. 17)

**SS.912.E.2.3** Research the contributions of key individuals of various backgrounds in the development of the U.S.

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**Background Note**

**Steven Levitt** Students might be interested to know that Levitt—and *Freakonomics* coauthor Stephen J. Dubner—maintain a Freakonomics blog at the Web site http://freakonomics.blogs.nytimes.com. Postings have addressed such topics as a possible link between the decline of grocery stores and the rise of obesity, the link between a member of the House of Representatives having a daughter and their voting pattern on women’s issues, and the use of statistical analysis in professional basketball.

**Answer**

**Critical Thinking** Possible answer: People lack many kinds of resources, including time and energy, as well as money and skills, that affect the decisions they make.
Teach Case Study

SUMMARIZE AND EXPLAIN

Have the students explain why companies are looking to outsource operations to developing countries. Ask Why are automakers moving high-skilled jobs into low-cost countries? (Automakers are trying to save money. Assembly plants have been in low-cost countries for years, but now automakers are trying to cut additional costs by moving more jobs into undeveloped areas where they can get cheaper labor).

Have the students figure out how far the automakers cited in the article are moving operations from their headquarters (General Motors is headquartered in Detroit, Michigan, and is building some cars in China—more than 6,000 miles away), and have them discuss benefits and drawbacks of having workers in remote locations. Ask How might production and quality control be compromised if Nissan designs cars in Vietnam? (Workers in developing countries are inexperienced; they are often new college graduates from recently started college programs with little experience or exposure to automobiles.)

Differentiate The article discusses assembly plant jobs and high-skilled jobs, which might be difficult for some students to distinguish. Prepare students by explaining the different types of jobs in the auto industry, and the difference between jobs that have been outsourced in the past (assembly plant jobs) and the new trend in the outsourcing of higher-skilled jobs (engineers).

SS.912.G.4.4 Analyze case studies of globalization.

Answer

Applying Economic Principles Possible response: Nissan has been shifting its engineering labor source from industrialized countries such as Germany, Japan, and the United States to Vietnam. By building design centers in the developing world, Nissan has changed its physical capital. Nissan has changed its human capital by hiring engineers who lack experience, while, at the same time, providing them with more advanced design software.
Virtual Economics

Differentiate

Constructing a Production Possibilities Curve Use the following lesson from the NCEE Virtual Economics CD-ROM to evaluate how production decisions are made. Click on Browse Economics Lessons, specify grades 9–12, and use the key words your mind.

In this activity, students will use a fictional case study to examine the factors of production and create a possibilities curve.

<table>
<thead>
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<th>LESSON TITLE</th>
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<tr>
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</table>

Answers

Graph Skills
1. Possible answer: More labor and capital are needed to make poorer land productive.
2. Possible response: increase watermelon production if producing them is more profitable than selling shoes, in spite of increasing costs.
Technology and Education

When economists collect data to create production possibility curves, they must first determine which goods and services a country can produce with its current resources. A country’s resources include its land and natural resources, its workforce, and its physical and human capital. Both human and physical capital reflect a vital ingredient of economic growth—technology. Technology is the process used to create goods and services. At any time, countries have used different forms of technology to produce shoes or watermelons or any of the thousands of products that are made. So economists must assess each country’s level of technological know-how. Do workers in Capeland better milk machines or watermelon picking by hand? Do they use assembly lines to make shoes? Technology is one of the factors that can increase a nation’s efficiency. Therefore, many governments spend money investing in new technology. For the same reason, they may also invest in education and training so that its people can develop and use new technologies. Highly-skilled workers can increase efficiency and lead to economic growth.

Critical Thinking
7. Judge Suppose you were an economic adviser to the leader of Capeland. Based on the production possibilities curve in Figure 1.2, what combination of watermelons and shoes would you recommend? Why? What other information might help you make the best decision?

8. Compare How is the law of increasing costs similar to the concept of decision making at the margin?

9. Apply Explain how each of the following circumstances is likely to affect a nation’s production possibilities frontier: the opening of a new college of engineering; an earthquake in the nation’s chief farming region; a new type of chemical fertilizer; a shortage of oil.

Math Skills
10. Use the information in the table below to create a production possibilities curve. Then, identify which of the following points on the graph would represent the least efficient use of resources: 3 units of capital goods to 25 units of consumer goods; 9 units of capital goods to 20 units of consumer goods; 12 units of capital goods to 2 units of consumer goods.

Visit PearsonSchool.com/PHecon for additional math help.
**Assign the Essential Questions Journal**

After students have finished studying the chapter, they should return to the chapter’s essential question in the Essential Questions Journal and complete the activity.

Tell students to go back to the chapter opener and look at the image. Using the information they have gained from studying the chapter, ask **How does this illustrate the main ideas of the chapter?** (Possible answers: even when there is no shortage, such as in this shopping mall, scarcity exists because people have unlimited wants and resources are limited; making decisions involves trade-offs: choosing to go to the mall instead of studying for a test is a trade-off that has certain benefits and opportunity costs.)

**Study Tips**

To help students prepare for college, have them practice note taking. For instance, have students record information about key concepts in Chapter 1 in a chart with the headings **Concept** and **Example**. Ask them to trade charts with a partner to check their information and understanding.

**Economics on the Go**

Have students download the digital resources available on Economics on the Go for review and remediation.

**Assessment at a Glance**

**Tests and Quizzes**

Section Assessments  
Section Quizzes A and B, Unit 1 All-in-One  
Self-Test Online  
Chapter Assessments  
Chapter Tests A and B, Unit 1 All-in-One  
Economic Detective, Unit 1 All-in-One  
Document-based Assessment, p. 21  
ExamView  
AYP Monitoring Assessments

**Performance Assessment**

Teacher’s Edition, pp. 5, 6, 9, 10, 11, 17  
Simulation Activities, Chapter 1  
Virtual Economics on CD-ROM, Teacher’s Edition pp. 6, 11, 17  
Essential Questions Journal, Chapter 1  
Assessment Rubrics
Chapter Assessment

1. (a) land, labor, capital (b) Possible responses: Land—natural resources used to generate electricity used at the store; Labor—business owner and workers; Capital—equipment and special training of workers

2. (a) combine factors of production to produce goods and services (b) examples: owners of Internet companies, movie producers, local store owners (c) Possible responses: imagination, to come up with new business ideas; persuasive speaking, to convince others to invest in the business; and leadership, to guide workers

3. Possible responses: (a) Opportunity cost of lightweight car is greater safety; opportunity cost of heavier car is higher fuel cost. Other trade-offs: heavier car pollutes more; lighter car may carry fewer passengers or less cargo. (b) Students might buy the heavier car due to greater safety. (c) Possible responses: doubling of gasoline price would push them to buy a lighter car to save on fuel costs; having a million dollars might convince them to buy the heavier car because gas cost would be less problematic; having children might push them to buy the heavier, safer car

4. (a) The curve would shift to the left because farmers’ productive capacity would go down. (b) Possible response: Yes. The capacity of other industries would decline because the drought would probably result in higher food prices which could cause some people to spend less on other goods and services. This could impact the production possibilities of these other industries.

5. 5 million more televisions than computers (20 million; 15 million)

6. 5 million computers

7. 2 million televisions

8. 5 million televisions

9. At point a, there is no opportunity cost because the maximum number of televisions—20 million—can be produced. At point b, the opportunity cost of 5 million computers is 2 million televisions so the opportunity cost of each 1 million computers is 400,000 televisions.

10. Students’ answers will vary. They must list at least three purchases and three activities and have an opportunity cost for each one.

11. (a) Students might opt for a more expensive alternative or, thinking at the margin, more units of a particular item. Some might save the money. (b) Students might give up an option that cost more time. (c) Students should explain which option they would have taken and under what conditions.

Key Terms and Main Ideas

To make sure you understand the key terms and main ideas of this chapter, review the Checkpoint and Section Assessment questions and look at the Quick Study Guide on the preceding page.

Critical Thinking

1. Give Examples (a) What are the three factors of production? (b) Choose a business in your community. Give two examples of each factor of production that would apply to that business.

2. Apply (a) What do entrepreneurs do? (b) Give two examples of people you consider to be successful entrepreneurs. (c) List three qualities you think an entrepreneur needs in order to succeed. Explain why each one would be important.

3. Decide Cars that weigh more tend to be safer than light-weight cars. At the same time, they use more gasoline because they are heavier. (a) Identify the trade-offs and opportunity cost involved in choosing either alternative. (b) Based on this information, which car would you choose to buy and why? (c) Would your answer change if the price of gasoline doubled? If you inherited a million dollars? If you had children? Explain how each factor would affect your cost/benefit analysis.

4. Predict (a) If a drought struck a country, what would happen to the production possibilities curve of all farmers in the country? Why? (b) Would the production possibilities curve of other industries be affected by this drought? Why or why not?

Applying Your Math Skills

Interpreting Data From Graphs

Imagine that you are the chief economist of a country with the following production possibilities curve. Use your math skills to answer the following questions.

5. How do the maximum amounts of each product differ?

6. Assume this economy is producing at full efficiency. How many computers are being produced when there are 18 million television being produced?

7. What is the opportunity cost of producing 5 million computers?

8. What is the opportunity cost of producing 9 million computers?

9. What is the opportunity cost of each 1 million computers at point a compared to point b?

FL LA.1112.6.3 Understand media literacy as a life skill.

The Economics WebQuest challenges students to use 21st century skills to answer the Essential Question. Students assume the role of political leaders and conduct research on world markets and the situations of the countries they represent to guide them toward making the best economic choices for their people.

Should the federal government spend money on space exploration?

Since the 1950s, the federal government has spent billions of dollars on its space program. While many have applauded the achievements of astronauts and space scientists, some Americans think the money could have been better spent at home.

Document A

“The fundamental goal of this vision is to advance U.S. scientific, security, and economic interests through a robust space exploration program. In support of this goal, the United States will:

- Implement a sustained and affordable human and robotic program to explore the solar system and beyond;
- Extend human presence across the solar system, starting with a human return to the Moon before the year 2020, in preparation for human exploration of Mars and other destinations;
- Develop the innovative technologies, knowledge, and infrastructures both to explore and to support decisions about the destinations for human exploration; and
- Promote international and commercial participation in exploration to further U.S. scientific, security, and economic interests.”


ANALYZING DOCUMENTS

Use your knowledge of opportunity costs and Documents A, B, and C to answer questions 1–3.

1. According to Document A, the primary goal of the American space program should be to
   A. land humans on the moon.
   B. focus on unmanned, or robot, missions.
   C. prepare for human exploration of Mars.
   D. advance the interests of the United States.

2. According to Document B, money for space exploration has been misspent because
   A. shuttle missions have been unsuccessful.
   B. research has not been a primary focus.
   C. the space station has many critics.
   D. the space station remains in a fixed orbit.

3. Document C shows that when spending on space and other technology has gone down, spending on general science research
   A. has gone up.
   B. has gone down.
   C. has stayed the same.
   D. has surpassed it.

Document B

We are 50 years into the space age, and yet space travel is just as expensive as it always was. . . . One of the primary missions of NASA should have been to drive down the cost of space travel. Instead of spending half a billion dollars on each shuttle mission, it should have diverted some of the funds to make research and development a primary focus. New materials, new fuels and innovative concepts, which would make space exploration less expensive, should have been prioritized. The space station costs upward of $100 billion, yet its critics call it a “station to nowhere.” It has no clearly defined scientific purpose.


Document C

Federal Spending on Science and Space Research

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*Estimate

SOURCE: U.S. Census Bureau

**L2 Differentiate** Students use all documents on the page to support their thesis.

**L4 Differentiate** Students use the documents on this page and additional information available online at www.PearsonSchool.com/PHecon to support their answer.

**Go Online to** www.PearsonSchool.com/PHecon for a student rubric and extra documents.

**Writing About Economics**

Possible responses: Yes, space exploration furthers “U.S. scientific, security, and economic interests.” No, space exploration is too costly when the government already has a huge deficit. Use the following as guidelines to assess the essay.

Student essay should demonstrate an understanding of the issues involved in the debate. Use the following as guidelines to assess the essay.

1. **L2 Differentiate** Students use all documents on the page to support their thesis.

2. **L4 Differentiate** Students use the documents on this page and additional information available online at www.PearsonSchool.com/PHecon to support their answer.


**LA.1112.1.6.2, LA.1112.6.3, MA.912.A.2.2**

**MA.912.A.2.2** Interpret a graph to represent a real-world situation.

**LA.1112.1.6.2** Listen to, read, and discuss familiar texts.

**LA.1112.6.3** Understand media literacy as a life skill.

**Economics Online** All print resources are available on the Teacher’s Resource Library CD-ROM and online at www.PearsonSchool.com/PHecon.