People always have to make decisions about how to meet their needs and wants. A need is something people must have to survive, like air, food, and shelter. A want is something that people would like to have but is not necessary for survival.

Economics is the study of how people make choices to satisfy their needs and wants. People have to make such choices because of scarcity, the limited amounts of resources to meet unlimited desires.

Economists call the resources used to make goods and services factors of production. There are three types: land, labor, and capital. Land includes natural resources like coal, water, and forests. Labor is work for which people receive pay. Capital is a human-made resource used to produce other goods and services. Objects made by people, like buildings and tools, are called physical capital. Human capital refers to the knowledge and skills people gain from study and experience. Entrepreneurs are people who put together land, labor, and capital to create new businesses.
TEXT SUMMARY

When making decisions people face trade-offs, or alternatives we give up when we choose one course of action over another. Individuals, businesses, and governments all face trade-offs. A person who chooses to spend more time at work has less time to spend at home. A business that uses all its factories to build chairs cannot build tables at the same time. A country that decides to produce more military goods has fewer resources to use for consumer goods. Economists use the term guns or butter to describe this trade-off.

A person who chooses one alternative gives up other alternatives. The most desirable alternative given up is called the opportunity cost. For example, suppose you have to choose between sleeping late or getting up early to study for a test. The opportunity cost of extra study time is less sleep. The opportunity cost of more sleep is less study time.

Decisions also involve thinking at the margin. This means deciding about adding or subtracting one unit of a resource, such as one hour of sleep. In the example above, the decision was between sleeping late or studying. But you could also choose to sleep an hour late, then wake up to study. To make a decision at the margin, you would compare the opportunity cost and benefit of each extra hour of studying.

GRAPHIC SUMMARY: Decision-Making at the Margin

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

This grid shows one way to analyze a decision by identifying the opportunity costs and benefits at the margin.

REVIEW QUESTIONS

1. What is opportunity cost?
2. Chart Skills What is the opportunity cost of the first extra hour of study?
Economists use graphs that are called **production possibilities graphs** to show alternative ways of using a country’s resources. For example, an economist might want to examine the production of shoes and watermelons. A production possibilities graph can show how the number of shoes produced is affected by the number of watermelons grown. As the number of watermelons produced is increased the number of shoes produced will decrease. This happens because land is scarce, and more land for watermelon farms means less land for shoe factories. Similarly, as more shoes are produced less resources are available to grow watermelons.

**Efficiency** means an economy is using resources in such a way as to maximize the production of goods and services. In the above example, efficiency would mean that the most watermelons and shoes possible are being produced. The line on the graph that shows the maximum possible production is called the **production possibilities frontier**. If factory workers and farmers lost their jobs, less shoes and watermelons would be produced. In this case the economy would suffer from **underutilization**, or using fewer resources than it is capable of using. A country’s resources are always changing.

In the future, resources may increase, causing the economy to grow. If more labor becomes available, there will be more workers to produce more goods. Improvements in technology, or know-how, will also help the economy grow. This growth can be shown by a shift to the right on the production possibilities frontier.

### GRAPHIC SUMMARY: Production Possibilities Graph

This production possibilities graph shows a made-up country’s trade-offs in producing shoes and watermelons. At point a, it produces no watermelons but all possible shoes. At point f, it produces no shoes and all possible watermelons.

### REVIEW QUESTIONS

1. What is efficiency?
2. **Graph Skills** How many watermelons and shoes are produced at point b on the production possibility frontier?
Write the letter of the correct answer in the blank provided. (10 points each)

1. Economics is the study of how people
   A. calculate their income tax.
   B. choose from limited resources to meet their needs.
   C. respond to war and drought.
   D. gain knowledge and skills from study and experience.

2. Shortages occur when
   A. many people are unemployed.
   B. interest rates go up.
   C. people have trouble supplying goods and services at current prices.
   D. the United States imports more than it exports.

3. The resources used to make goods and services are called
   A. factors of production.
   B. gross national product.
   C. production possibilities frontier.
   D. opportunity cost.

4. Entrepreneurs are people who
   A. help settle labor disputes.
   B. work on the floor of the stock exchange.
   C. put together land, labor, and capital to create new businesses.
   D. produce all of a country’s guns and butter.

5. Giving up one alternative for another is called
   A. underutilization.
   B. a trade-off.
   C. human capital.
   D. efficiency.

6. Countries often have to choose between producing military or consumer goods, a trade-off economists call
   A. export or import.
   B. a free market economy.
   C. farm goods or factory goods.
   D. guns or butter.

7. Thinking at the margins means deciding about
   A. maximizing goods and services.
   B. investing with borrowed money.
   C. adding or subtracting one additional unit of some resource.
   D. increasing or decreasing technological know-how.

8. The purpose of a production possibilities graph is to
   A. show alternative ways to use an economy’s resources.
   B. show how a factory can use its workers in different ways.
   C. give engineers a new way of deciding how to build manufacturing plants.
   D. tell farmers how many watermelons to plant.

9. Using resources in such a way as to maximize the production of goods and services is called
   A. efficiency.
   B. underutilization.
   C. thinking at the margins.
   D. growth.

10. A country’s production possibilities will grow if it
    A. produces more guns than butter.
    B. lowers its opportunity costs.
    C. makes more trade-offs.
    D. increases its resources.