CHAPTER 19

Developing Countries

Economics & You

Read to find out how developing countries are working to increase their production and raise the standard of living of their people. To learn more about the economic challenges facing many nations, view the Chapter 26 video lesson:

Developing Countries

ECONOMICS Online

Chapter Overview Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 19—Chapter Overviews*** to preview chapter information.

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Buyers and sellers meet at a produce market in the Vietnamese river town of Hoi An.

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SECTION 1

Economic Development

Study Guide

Main Idea
Developing countries face a number of obstacles that make economic growth extremely difficult.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer similar to the one below by providing at least two reasons why it would probably be more difficult to bring about change in a traditional economic system than in a developed country.

Key Terms
developing country, crude birthrate, life expectancy, zero population growth (ZPG), external debt, default, capital flight, International Monetary Fund, World Bank

Objectives
After studying this section, you will be able to:
1. **State** the concern for the plight of the developing countries.
2. **Identify** the obstacles to economic development.
3. **Compare** per capita GNP among various countries and regions.

Applying Economic Concepts
Life Expectancy Are there any downsides to longer life expectancies? Read to find out how a longer life expectancy affects the quality of life in developing countries.

Cover Story

The Casualties Don't Stop When the War Does


Mine detecting in Cambodia

Anti-personnel (AP) land mines have become the world's largest source of war-related injuries. According to the International Committee of the Red Cross, mines kill 800 people every month and another 1,200 are maimed—a total of 2,000 victims a month—one person every 20 minutes.

Low cost and easy availability have made anti-personnel land mines the weapons of choice in the developing world. The United Nations estimates that there are currently tens of millions of anti-personnel land mines buried in more than 70 countries . . . approximately one mine for every 50 people on earth. . . .

Land mines cost as little as $3 (U.S.) to produce and up to $1,000 to remove. For every 5,000 mines cleared, one de-miner is killed and two are injured.

—*PALM Physicians Against Land Mines*, August, 1999

Most of the people in the world today live in **developing countries**–countries whose average per capita GNP is a fraction of that in more industrialized countries. Most developing countries are located in Africa, Asia, and Latin America.

In many ways, developing economies are similar to other economies of the world. The major difference is that their problems are much greater. Some problems faced by developing countries, such as the residual effects of war highlighted in the cover story, are so serious that some developing nations may never reach their potential.

Interest in Economic Development

Economists know that all nations are better off when they produce and trade the products in which they have a comparative advantage. Even so, the international community's concern for the developing countries is humanitarian as well as economic and political.

Concern for Developing Countries

Industrialized countries of the world often believe it is their moral responsibility to help those who have less than they do. Assistance to developing countries helps assure the industrial nations of a stable supply of critical raw materials. In turn, developing countries also provide markets for the products of industrial nations.

Politics are also important. Despite the dramatic failure of communism in some countries, various political ideologies wage a continuing struggle for the allegiance of developing countries.

Per Capita Income

Today more than 1.2 billion people exist on an income of less than $1 a day. According to **Figure 19.1,** the majority of these people are in Africa and Asia. The map contrasts the income of the industrialized nations and the developing nations, scaling each country to show the size of its total GNP. Recall that GNP is a measure of *income,* while GDP is a measure of output relative to other countries. Thus, the United States, which has the largest total income in the world, is the largest area on the map. Countries with smaller GNPs are scaled accordingly.

The map is also color coded to show countries with similar per capita GNPs. When viewed this way, the contrast is clearly shown between the industrialized economies of North America, Western Europe, and Japan, and the developing countries of South America, the Caribbean, Africa, and Asia. The gap between industrialized and developing countries is enormous. If anything, the gap is getting larger, rather than smaller.

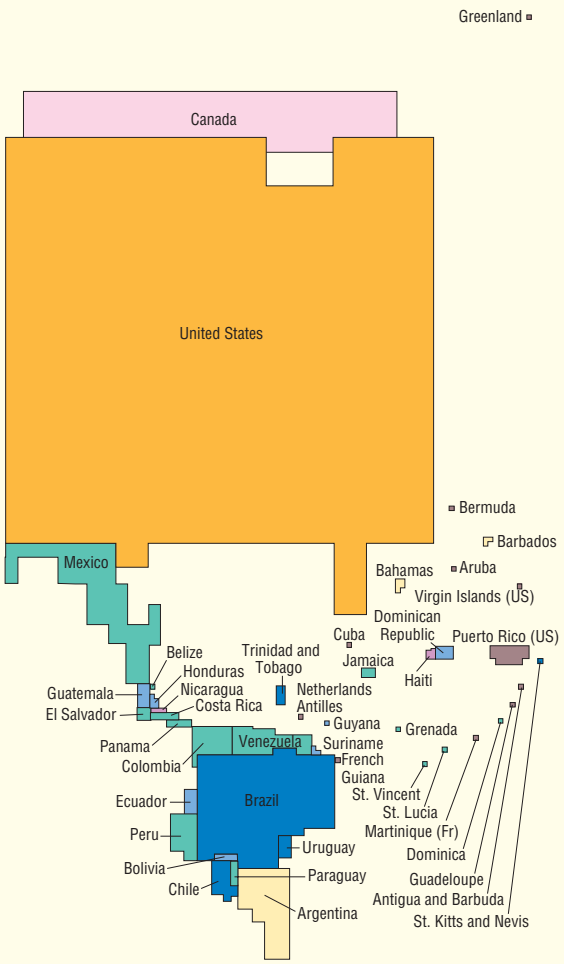
Obstacles to Development

Before examining some of the possible solutions to the plight of developing countries, we need to take a closer look at some common problems and challenges.

Population Growth

One obstacle to economic development is population growth. The populations of most developing

ECONOMICS AT A GLANCE



Source: *The World Bank Atlas*

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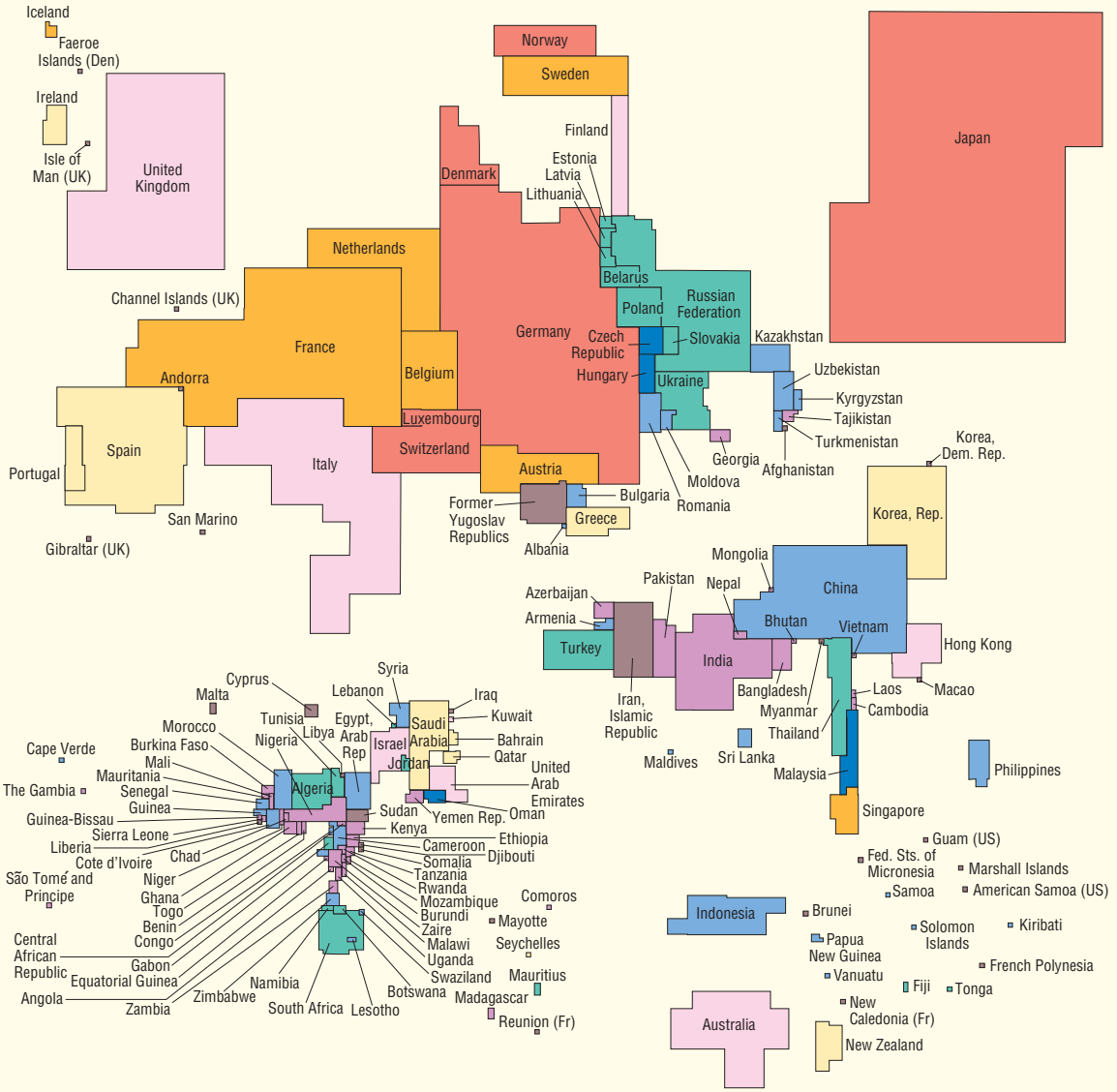
Gross National Product and Gross National Product Per Capita



Reading Maps If every nation's land area were proportional to its Gross National Product, the world would look like the map in this figure. When GNP is computed on a per capita basis, we get another view of a nation's productivity. **Which nations have a per capita GNP larger than that of the United States?**

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countries grow at a rate much faster than the populations of industrialized countries. One reason for this growth is the high **crude birthrate**–the number of live births per 1,000 people.

People in many developing countries are also experiencing an increasing **life expectancy**–the average remaining lifetime in years for persons who reach a certain age. Longer life expectancies, coupled with a high crude birthrate, make it difficult to increase per capita GNP.

Some countries, like China, have encouraged lower birth rates and smaller families. Some people even feel that societies should work for **zero population growth (ZPG)**–the condition in which the average number of births and deaths balance. Others feel efforts to disrupt population growth are wrong from both moral and religious perspectives.

Natural Resources and Geography

Another obstacle to economic growth is limited natural resources, which includes unproductive land and harsh climates. A shortage of natural and energy sources needed for industry also hinder growth.

In some cases, countries with limited natural resources can make up for the deficiency by engaging in international trade, as Japan has done. However, if a country is landlocked, trade is much more difficult. It is no accident that all of the major economic powers today have long had coastal cities with access to major trade routes.

Education and Technology

Still another obstacle to economic development is a lack of appropriate education and technology. Many developing countries do not have a highly literate population nor do they have the high level of technical skills needed to build an industrial society. In addition, most do not have money to train engineers and scientists.

Many developing countries cannot afford to provide free public education for school-age children. In those that can, not everyone is able to take advantage of it because children must work to help feed their families.

CYBERNOMICS SPOTLIGHT

Agricultural Development

Genetically modified cotton crops may be the means by which countries of Africa south of the Sahara become more competitive with the developed world. Some economists fear, however, that as more countries plant the genetically modified crops, the market for cotton will become saturated. Prices will drop, leaving farmers poorer than ever.

Religion

Religious beliefs may also stand in the way of economic development. While almost everyone realizes that capital investment and new technologies can help economic growth, some people may not be interested for religious reasons. In the United States, for example, many Mennonites have long rejected these advances on religious grounds.

In Asia, most Hindus and Buddhists believe that life is governed by a fate called karma; they believe that people are caught up in an eternal cycle of life, death, and rebirth. The Hindus believe that the eternal cycle can be broken, in part, by purifying the mind and body through living a simple and austere lifestyle. The Buddhists believe that the way to break the cycle is to extinguish desire and reject the temptations of the material world. Consequently, many Hindus and Buddhists–representing approximately 20 percent of the world's population–have little motivation to improve their material well-being.

The teachings of Catholicism, Protestantism, and Judaism are much more compatible with the concept of economic growth and material improvement, while the Islamic world is in between the Christians and the Hindus. We must realize, however, that some cultures may not be as interested in the Western concept of economic growth and development as we imagine.

External Debt

Another major problem facing the developing nations today is the size of their **external**

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debt–money borrowed from foreign banks and governments. Some nations have borrowed so much they may never be able to repay loans.

Today a number of developing countries–Bulgaria, Cameroon, the Ivory Coast, Ethiopia, Honduras, Jordan, Madagascar, Syria, and Tanzania–all have external debts larger than their GNP. Sudan and Zambia have external debts more than twice their GDP, and Angola's external debt is *three* times larger than its GDP.

When debts get this large, countries have trouble even paying interest on the loans. As a result, some developing nations have teetered on the brink of **default,** or not repaying borrowed money. Even this strategy is dangerous, however, because a country that defaults on its loans may not be able to borrow again.

Capital Flight

Another problem for developing nations is **capital flight**–the legal or illegal export of a nation's currency and foreign exchange. Capital flight occurs because people lose faith in their government or in the future of their economy. When capital flight occurs, businesses and even the government often face a cash shortage. At a minimum, capital flight limits the funds available for domestic capital investment.

Even private citizens can contribute to capital flight. Suppose that someone in Moscow wants to turn rubles into dollars. First, the person would go to several banks and purchase traveler's checks. Next, the individual would destroy the checks and then fly to New York. Third, the checks would be declared as being lost or stolen so that they can be redeemed in the U.S. for dollars.

Corruption

Corruption at any level of government is an obstacle to economic development. Sometimes corruption takes the form of minor officials requiring modest bribes to get even the smallest things done. At other times, corruption occurs on a massive scale.

When Ferdinand Marcos was president of the Philippines, foreign investors poured billions into the country's economy. Years later, however, the majority of Filipinos still lived in poverty. Officials later charged that Marcos had stolen at least $500 million from the nation and deposited the money in personal Swiss bank accounts.

When the Soviet Union began to collapse in the late 1980s and early 1990s, the Communist party took billions of dollars out of its own accounts, government-owned enterprises, and even its own central bank and deposited the money in various Swiss, European, and American banks. At the time, the Soviet secret police used a sophisticated network of trade delegations, central bank offices, and even Soviet embassies to move the money abroad–money that could have been used to modernize the Russian economy after the fall of communism.

War and Its Aftermath

Unfortunately, many of the developing nations of the world–Angola, Afghanistan, Egypt, Ethiopia, Cambodia, Somalia, and Vietnam to name just a few–were the scenes of bloody civil wars in the late 1900s. The immediate impact of war is the devastating loss of lives and property, not to mention the damage to the country's infrastructure.

Education

Developing Nations Although enrollment in schools, and the literacy rate, are improving in developing nations, many lack basic educational tools. ***What is the status of free public education in developing countries?***

The aftermath of war can linger for decades. Poland lost virtually all of its *intelligentsia*–its scientists, engineers, and even most of its merchant class–to the gas chambers and concentration camps in World War II. The loss of this talent contributed to the slow recovery of the Polish economy after the war, and even hindered its economic development after the fall of communism.

The widespread use of chemical weapons and land mines make simple activities like farming extremely difficult in many areas. Moreover, many of the people injured by these weapons, such as children playing in fields, were not participants in the war in the first place. The weapons of war–as discussed in the cover story–often impede economic development long after the war is over.

International Agencies

The problems of the developing countries have not gone unnoticed by the more successful countries of the world. Two agencies, in particular, work directly with developing nations to solve their problems.

The **International Monetary Fund (IMF)** offers advice to all nations on monetary and fiscal policies. It also helps support the currency of some developing nations with loans so that the countries can compete in an open market and attract foreign investors.

Another important international lending and development agency is the World Bank Group, more commonly known as the **World Bank.** The World Bank is an international corporation that makes loans and provides financial assistance and advice to developing countries. The World Bank is owned by IMF member nations, but it operates as a separate organization.

Recently, the World Bank has undertaken projects to control the desert locust in East Africa. It also has funded projects to develop inland water transportation in Bangladesh, rural transportation systems in Vietnam, and even tax modernization in Kazakhstan.

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Student Web Activity Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 19—Student Web Activities*** for an activity on the International Monetary Fund.

Section 1 Assessment

Checking for Understanding

1. **Main Idea** Describe what a developing country is and some of the economic problems it may experience.
2. **Key Terms** Define developing country, crude birthrate, life expectancy, zero population growth, external debt, default, capital flight, International Monetary Fund, World Bank.
3. **List** three reasons why there is concern for the plight of developing countries.
4. **List** eight factors that may be obstacles to economic development.
5. **Compare** the per capita GNP of Algeria with that of Argentina.

Applying Economic Concepts

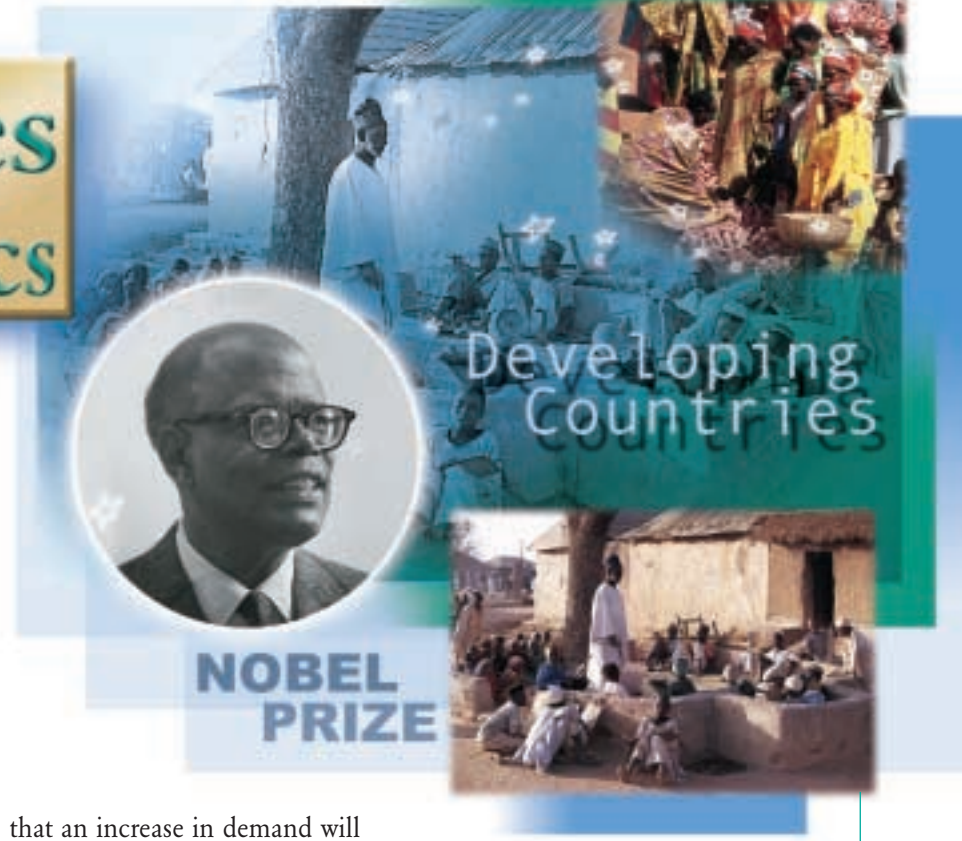
6. **Life Expectancy** Explain why an official of a developing nation would have both positive and negative views of increasing life expectancy.

Critical Thinking

7. **Identifying Alternatives** Suppose you are an official in charge of economic development in a developing country. Choose the first two obstacles to economic development that you would address. Then tell why you would tackle them first.

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

Profiles in Economics



Opening Doors:
W. Arthur Lewis
(1915–1991)

Economist Sir W. Arthur Lewis achieved many firsts. After attending school in his native St. Lucia, he earned a scholarship to attend the London School of Economics (LSE) where, in 1937, he graduated first in his class. Soon after, while working on a Ph.D. in economics, he became the first black to receive an assistant lectureship at the LSE. In 1979 he became the first black to win the Nobel Prize in economics (jointly with Theodore Schultz). Lewis's prize-winning work focused on the economic problems of developing nations.

INSIGHT INTO DEVELOPING NATIONS

In particular, Lewis challenged the prevailing view that the supply of labor in developing nations is upward sloping, so that an increase in the demand for labor results in an increase in wages. Real wages, noted Lewis, tend to stay at low levels in many developing nations regardless of the increases in demand for labor. The only solution, he reasoned, is that the supply curve for labor has to be perfectly elastic–or horizontal rather than upward sloping–so that an increase in demand will leave wages unchanged. His theory explains why countries such as Sri Lanka are still underdeveloped, although they have been developing for nearly 100 years.

Lewis did not claim to have solved the problems of the developing countries. His contributions, however, have made existing economic models and theory more applicable to realistic conditions.

"HOW I CONDUCT MYSELF"

Lewis explained how he felt about his illustrious career:

"I had never meant to be an economist. . . . What was this economics? I had never heard of it before, and nobody in St. Lucia knew what it was . . . ," he recalled. "Looking backward . . . I have lived through a period of transition. . . . I have been subject to all the usual disabilities–refusal of accommodations, denial of jobs for which I had been recommended, generalized discourtesy, and the rest of it. All the same, some doors that were supposed to be closed opened as I approached them. I have got used to being the first black to do this or that, which gets to be more difficult as the transition opens up new opportunities. Having to be a role model is a bit of a strain, but I try to remember that others are coming after me, and that whether the door will be shut in their faces as they approach will depend to some small extent on how I conduct myself."

Examining the Profile

1. **Demonstrating Reasoned Judgment** Why might an increase in demand for labor not increase the wage rate in developing countries?
2. **Drawing Conclusions** What does Lewis mean by "the usual disabilities" he faced?

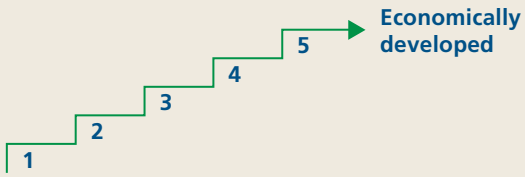
SECTION 2

A Framework for Development

Study Guide

Main Idea
Economists suggest that developing nations have several ways of achieving their economic growth.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer similar to the one below by listing the stages of economic development. Then describe what occurs during each of the stages.



Key Terms
primitive equilibrium, takeoff

Objectives
After studying this section, you will be able to:
1. **Explain** the stages of economic development.
2. **Describe** the steps industrialized countries can take to help developing countries.
3. **Describe** the steps developing countries can follow to help themselves.

Applying Economic Concepts
Primitive Equilibrium Have you ever had a day during which nothing much was attempted and nothing much got done? Read to find out why this type of equilibrium is a stage that developing economies sometimes go through.

Cover Story

Easing the Debt Burden

COLOGNE, Germany—Leaders from the Group of Seven industrial nations agreed Friday to cut the debt burden of the world's poorest countries in what they described as a decisive push to alleviate poverty.


Market in Burundi

President Jacques Chirac of France said the relief, mainly for African countries, could total about $65 billion . . . [but] the amount could approach $90 billion if other creditors joined the initiative.

Some loans—about $15 billion worth—would be canceled outright, and mechanisms would be put in place to evaluate the countries for other forms of debt relief, based on future economic reforms.

—*The New York Times*, June 19, 1999

Because the problems of the developing nations are so great, economic development is a formidable task. Many approaches have been tried, and others, such as the one described in the cover story, have much promise.

Stages of Economic Development

Some economists have suggested that developing countries normally pass through several stages on their way to economic development. Others argue that the process is not uniform for all countries. Even so, it is helpful to think of economic development as occurring in stages, even if the boundaries between these stages are not always clear-cut.

Primitive Equilibrium

The first stage toward economic development is **primitive equilibrium.** It is "primitive" in the sense that the society has no formal economic organization. An example would be the Inuit of

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Did you know?

Population Explosion Over the next 30 years, almost 98 percent of population growth is projected to take place in developing countries.

the past century, who shared the spoils of the hunt with other families in the village.

A people–or country–in primitive equilibrium often have no monetary system and may not be economically motivated. No capital investment takes place, and the society is in equilibrium because nothing changes. Rules are handed down from one generation to the next, and culture and tradition direct economic decision making.

Transition

The second stage of economic development is one of transition. It consists of a break with primitive equilibrium and a move toward economic and cultural changes. The break may be brief and sudden, or it may take years. A country does not grow economically in this transition stage, but old customs begin to crumble. People begin to question their traditions, and they try new patterns of living.

Takeoff

The third stage of development–**takeoff**–is not reached until the barriers of primitive equilibrium are overcome. A country in the takeoff stage begins to grow more rapidly than before. One reason is that customs have been put aside, and people have begun to seek new and better ways of doing things. Another reason is that the people have begun to imitate the new or different techniques that outsiders have brought into the country. Still another reason is that an industrial nation may be providing financial, educational, or military aid.

During the takeoff stage, a country starts to save and invest more of its national income. New industries grow rapidly, and profits are reinvested in them. Industry uses new production techniques, and agricultural productivity greatly improves.

Semidevelopment

The fourth stage is semidevelopment. In it, the makeup of the country's economy changes. National income grows faster than population, which leads to higher per capita income. At the same time, the core of the country's industry is built. The nation spends heavily on capital investment, and technological advances are made.

High Development

The final stage of development is high development. In this stage, efforts to obtain food, shelter, and clothing are more than successful. Most people have their basic needs and wants met. They turn their attention to services and consumer goods such as washing machines, refrigerators, and video equipment.

The nation no longer emphasizes industrial production. Instead, it increases services and provides more public goods. Mature service and

Careers

Peace Corps Volunteer

Are you willing to work for minimal pay in unfamiliar surroundings? Are you a dedicated individual who can work effectively with people?

The Work

Peace Corps volunteers take on two-year assignments overseas. They receive eight to 14 weeks of training in the history, culture, and language of the country in which they will serve. Duties include working with the people of the host country to improve food production, health care, and other basic needs. Salary is an allowance for living costs. Housing, medical care, and transportation are provided.

Qualifications

College training is not required, but assignments may be made on the basis of the volunteer's experience and skills. Volunteers must be U.S. citizens and at least 18 years old.

The New Peace Corps

On March 1, 1961, President Kennedy signed an executive order establishing the Peace Corps. Since then, tens of thousands of volunteers have served in the villages, towns, and cities of more than 130 countries.

In the past, it was easy to spot Peace Corps volunteers. They wore Birkenstocks and loose-fitting, gauzy garb. They often had wide-eyed notions of saving the world. To many of them, "capitalism" was a four-letter word.

No more. Today's Peace Corps volunteers—80 percent of whom are in their 20s—still want to help the world, but they also want to help themselves. Many volunteers have business degrees and view the Peace Corps as a two-year internship, culminating with a return home to a job with a top company. What better way to gain experience than by helping a developing nation get its corporate feet on the ground?

"I'm definitely joining to improve my skills for a better job," said Beth Atkinson, 22, who recently received a bachelor's degree in business administration from Indiana Wesleyan University. Next month, she heads for Mali in West Africa to help craftsmen and entrepreneurs form businesses. "You hear a lot of talk about global business, and I thought there's no better way to go than this," she said.

—*The New York Times,* July 18, 1999

Critical Thinking

1. **Analyzing Information** According to the article, in what way is the Peace Corps changing?
2. **Understanding Cause and Effect** For what reasons are young people joining the Peace Corps?

manufacturing sectors are signs of a highly developed economy.

Priorities for Industrialized Nations

The World Bank has become a powerful force in economic development because it often requires that countries actually make market reforms as a condition for obtaining a loan. Because of its considerable experience with developing nations, the World Bank has a list of recommendations for both developing and industrialized countries.

First, trade barriers, especially nontariff barriers, need to be reduced or eliminated. The World Bank has estimated that eliminating trade barriers would generate as much as $50 billion annually in export earnings for the developing countries.

Second, industrialized countries need to implement macroeconomic policies that reduce budget deficits, lower interest rates, and stabilize inflation and foreign currency fluctuations. This would help the economic development of all types of economies. When industrialized economies grow, their increased international trade often includes, and benefits, the developing economies.

Third, the industrialized nations need to provide more external financing to the developing countries. This financing could be direct aid, or it could be indirect aid to international agencies.

Fourth, the industrial economies need to support the economic development of developing countries. Traditionally, the majority of United States foreign aid has been granted to achieve political aims. Between one-half and two-thirds of all U.S. foreign aid has been used for military supplies and training, either directly or indirectly.

Priorities for the Developing Countries

As mentioned earlier, the World Bank also has a list of recommendations for the developing countries. The developing countries face the responsibility for directing their own economic development and future.

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First, governments in developing countries need to invest more in people–education, family planning, nutrition, and health care. The wealth of any nation, as Adam Smith wrote, resides in the strength and vitality of its people.

Second, improve the climate of free enterprise. Many price controls, subsidies, and other regulations that restrict the free development of markets should be removed. The World Bank suggests that competitive markets–not politicians–make the WHAT, HOW, and FOR WHOM allocation decisions.

Third, open economies to free trade. Many developing economies have quotas, tariffs, and other barriers that are used to protect domestic jobs and infant industries. At the same time, however, the trade barriers protect inefficient industries and depress a country's standard of living. Countries that open their markets to the world will benefit from comparative advantage and will ultimately develop competitive specialties of their own.

Fourth, developing countries, like the industrialized ones, need to follow policies that curb inflation, reduce borrowing, and decrease deficits. Their policies also must allow market incentives such as profits, so that the economies can begin to sustain their own growth.

Investment in People

Priorities Investment in basic health care is an important priority for developing nations. ***What is the reasoning for investing in people?***

Section 2 Assessment

Checking for Understanding

1. **Main Idea** Describe the nature of economic development. Does development happen all at once? Explain.
2. **Key Terms** Define primitive equilibrium, takeoff.
3. **List** the stages of economic development.
4. **Describe** what actions industrialized countries can take to help developing countries.
5. **Describe** recommendations that the World Bank has for developing countries.

Applying Economic Concepts

6. **Primitive Equilibrium** Imagine that a society is in primitive equilibrium—nothing is changing internally to begin economic development. Describe an event that could be a potential source of change.

Critical Thinking

7. **Making Inferences** The International Bank for Reconstruction and Development was organized near the end of World War II. For what purpose do you think it was founded?

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

BusinessWeek

DECEMBER 7, 1998

Newsclip

In 1951 the Indian Institutes of Technology (IIT) was founded. The school was established to produce an educated class to build dams, bridges, and power plants for the newly independent country. Today, IIT graduates are seen as the key to helping India prosper.

Whiz Kids

Some of the most prominent chief executives, presidents, entrepreneurs, and inventors in the world are graduates of IIT, India's elite institution of higher learning. Its impossibly high standards, compelling the mostly male student body to average fewer than five hours of sleep a night, produce [numerous] graduates who are masters at problem-solving. . . .

The rise of IITians, as they are known, is a telling example of how global capitalism works today. The best companies draw from around the world, and the result is a global class of worker: the highly educated, intensely ambitious college grad who seeks out a challenging career, even if it is thousands of miles from home. By rising to the top of Corporate America, these alumni lead all other Asians in their ability to reach the upper echelons of world-class companies. . . .

And the Indian government, to its credit, has not tried to keep these first class students at home. In many ways, the IIT grad is the hottest export India has ever produced. . . .

. . . Thousands of graduates have [immigrated] to the U.S., causing the Indian government anxiety over the brain drain of its brightest. A full 30% of the graduating class–over 500 students–headed to the U.S. for graduate degrees and better

job opportunities in 1998. In the more popular computer-science programs, nearly 80% leave for Silicon Valley. . . . While IIT does offer graduate programs, students know that an advanced degree from a U.S. institution is the entry ticket to an American or global corporation–and big bucks.

. . . The bottom line for students and grads is that India has produced a world-class university at surprisingly little cost. By nurturing the schools, the government hopes to reap huge rewards as these grads invest in India and draw it further into the circle of global trade and prosperity.

Examining the Newsclip

1. **Understanding Cause and Effect** In general, how has global capitalism affected today's college student?
2. **Making Predictions** Do you think India will benefit as IIT graduates move into the global workplace? Why or why not?

SECTION 3

Financing Economic Development

Study Guide

Main Idea
Economists suggest that developing countries can make progress by encouraging foreign direct investment, building human capital, and encouraging regional cooperation.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer similar to the one below by describing what may result if resources are mobilized for the wrong reasons.

Key Terms
expropriation, soft loan, free-trade area, customs union, European Union (EU), euro, ASEAN, cartel, population density

Objectives
After studying this section, you will be able to:
1. **Describe** one internal and two external sources of funds for economic development.
2. **Explain** the role of international lending and developing agencies.
3. **Explain** how regional cooperation can assist economic growth.

Applying Economic Concepts
Growth and Development Do you think you would buy more products if you didn't have to pay tariffs? Read to find out why free-trade areas are helping developing nations today.

Cover Story

Is Dollarization on the Horizon?

NEW YORK (CNNfn)—Federal Reserve Chairman Alan Greenspan said Thursday that "dollarization" by Latin American countries might help the United States if it promoted stability in the region.


Salvadoran currency

Dollarization is when another country adopts the dollar instead of its own currency. Countries reportedly considering such a move include Mexico, Argentina and El Salvador.

Greenspan appeared with Deputy Treasury Secretary Lawrence Summers at a Senate Banking panel hearing to discuss issues that would arise if other countries wanted to adopt the dollar as their own currency.

—*CNNfn*, April 22, 1999

For a developing country to foster industries in which it has a comparative advantage, it needs capital. Funds may be needed, for example, to provide irrigation for farms or heavy equipment for mining. Capital is also needed to build roads and highways for bringing products to ports for shipment to the rest of the world.

Financial capital generally can come from different sources, but it is always hard to obtain unless the developing countries have a certain degree of financial stability. One interesting attempt to achieve financial stability, as you read in the cover story, involves the potential use of the United States dollar in place of existing domestic currencies.

Development With Internal Funds

Internal funds are an important source of capital. In many cases, they may be the only source of capital for a developing country. To generate these internal funds from savings, an economy must produce more than it consumes.

Savings in a Market Economy

If a developing country is modeled after a market economy, the incentive to save stems from the profit motive. Firms often try to borrow funds for various projects, and banks charge interest rates on savings that are set by the forces of supply and demand. If the demand for money is high, the rate will rise, and more saving will be encouraged. Saving, in turn, produces financial capital.

One economy that developed in this way was Hong Kong. Before reunification with China, government interfered very little, and people were free to pursue almost any economic activity they desired. By 1997, Hong Kong's per capita GNP was about 90 percent of that of the United States, and more than 40 times greater than China's.

Savings in a Command Economy

Other developing countries, such as Cuba, the Dominican Republic, and Uganda, had command economies at one time or another. However, because the citizens were also poor, they had no ability to save on their own. Despite the poverty, their governments were still able to force savings on the economy. This was done by forcing people to work on farms, roads, or other projects the government thought were needed for economic development.

Unfortunately, history shows that although command economies can mobilize resources, they do not always use them to promote economic growth. More often, resources are mobilized for political reasons or personal gain. In addition, nearly all forced mobilizations fail to instill long-term incentives or work ethics in the people. When resources are mobilized for the wrong reasons, the cost in personal, economic, and political freedoms is higher than most people want to pay.

Development With External Funds

No matter what system of government a less developed country has, it is never easy to develop an economy with internal funds alone. Therefore, some developing countries try to obtain external funds. There are three ways they can do this.

One way a country can obtain external funds is to attract private funds from foreign investors who might be interested in the country's natural resources. This happened in the Middle East with its abundance of oil, in Chile with its abundance of copper, and in Asia with its abundance of mahogany and teakwood.

If foreign investments are to work, the arrangement must be beneficial to both the investor and the host country. Many investors are unwilling to take major risks unless they are sure that the developing country is politically stable. Developing countries that follow a policy of **expropriation**–the taking over of foreign property without some sort of payment in return–make it harder for all developing nations to attract foreign capital.

Another way to obtain external funds is through borrowing from foreign governments. The United States and other industrialized countries, including Canada and those in Western Europe, grant some aid to developing countries.

The former Soviet bloc also gave economic assistance to developing countries. More than 50 percent of its aid, however, went to allies such as Cuba, Ethiopia, Afghanistan, and Iraq. Like most other foreign aid, it was given mostly to promote political, rather than economic, ends.

A third way a country can get external financial assistance is by obtaining a loan from an international agency. The International Bank for Reconstruction and Development–part of the World Bank Group–helps developing countries

STANDARD & POOR'S INFOBYTE

Brady Bonds Brady bonds provide developing nations a way to restructure their sovereign debt obligations to foreign commercial banks. In a Brady restructuring, a portion of the developing country's debt is forgiven with the balance being exchanged for various series of bonds. The maturity of these new obligations is extended, reducing the country's annual debt service requirements. To attract investors, Brady bonds are often backed by U.S. Treasury securities and offer investors attractive yields.

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with loans and guarantees of loans from private sources. In the past, many of the loans have been for projects such as dams, roads, and factories. More recently, loans have been made to developing nations in an effort to get them to change their economic policies.

Another part of the World Bank Group is the International Finance Corporation (IFC), an agency that invests in private businesses and other enterprises. The International Development Association (IDA) makes **soft loans**–loans that may never be paid back–to the neediest countries. The rates on IDA loans are interest-free and may be for periods of 35 or 40 years.

Countries can also get help from the IMF. After the Berlin Wall came down and the Soviet Union collapsed, a number of former Soviet bloc countries wanted to trade their currencies on global exchanges. The IMF provided loans to help with the conversion. Today, such currencies as the Hungarian *forint,* the Polish *zloty,* and the Czech Republic's *koruna* are listed on world markets. This is important because investors must be able to purchase the currencies of these countries to conduct international trade with them.

Regional Cooperation

Some countries have joined together to form a **free-trade area**–an agreement in which two or more countries reduce trade barriers and tariffs among themselves. The free-trade area does not try to set uniform tariffs for nonmembers. Other countries have formed a **customs union**–an agreement in which two or more countries abolish tariffs and trade restrictions among themselves and adopt uniform tariffs for nonmember countries.

The European Union

The most successful example of regional cooperation in the world today is the **European Union (EU).** The EU, formerly known as the European Community, started out as a customs union and now consists of the 15 member nations shown in **Figure 19.2** on page 536.

In January 1993, the EU became the single largest unified market–in terms of population and output–in the world, although the United States has since caught up in terms of GNP. The EU is a single market because there are no internal barriers regulating the flow of workers, financial capital, or goods and services. Citizens of the EU hold common passports, can vote in European elections, and can travel anywhere in the EU to work, shop, save, and invest.

The final stage of European integration is scheduled for 2002 when the EU introduces a single currency–the **euro**–to replace the majority of individual national currencies now issued by the member nations.

ASEAN

The economic success of the EU has encouraged other nations to try regional cooperation. In 1967 five nations–Indonesia, Malaysia, Singapore, the Philippines, and Thailand–formed the Association for Southeast Asian Nations, or ASEAN.

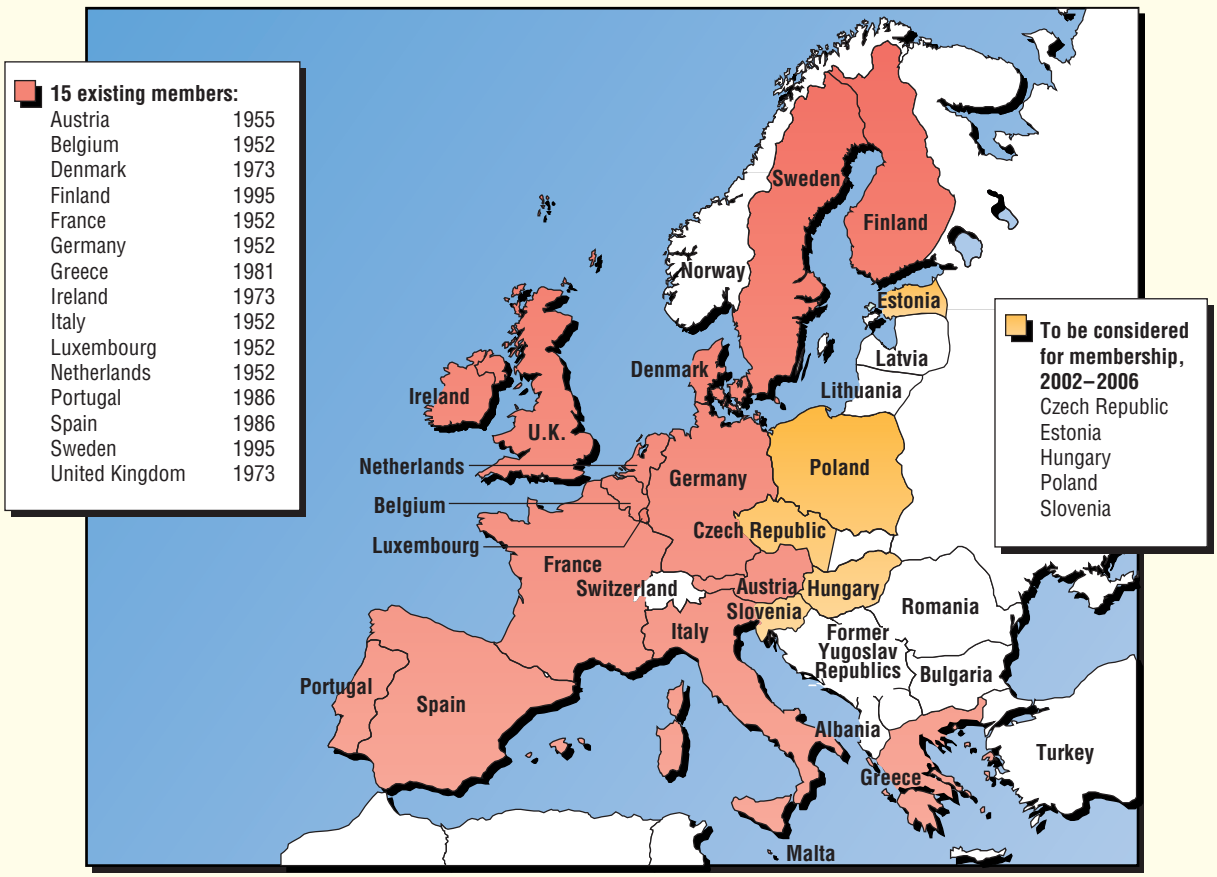
Today, **ASEAN** is a ten-nation group working to promote regional peace and stability, accelerate economic growth, and liberalize trade policies in order to become a free-trade area by 2008.

Development

External Funds This hydroelectric dam is part of the Uribante-Caparo development in the Venezuelan Andes. ***Through what agencies can developing countries borrow money to finance projects?***

ECONOMICS AT A GLANCE

Figure 19.2



Reading Maps The 15 members of the European Union currently make up the largest single market in the world, with more than 370 million people. **What are the benefits of membership in the EU?**

OPEC

A number of oil-producing nations have joined to form a **cartel**–a group of producers or sellers who agree to limit the production or sale of a product to control prices. OPEC's members were able to take advantage of a natural monopoly and push up world oil prices. Since it was organized in 1960, OPEC has successfully transferred trillions of dollars from the industrialized nations to the OPEC members as a result of higher prices paid for oil.

Even with all this financial capital, however, the growth rates of most OPEC nations were low by most standards. In Iran, revolution interrupted the development of the domestic economy. After Iraq invaded Kuwait, Iraq suffered huge losses during the Persian Gulf War. Overproduction by OPEC also pushed oil prices down.

The South Korean Success Story

One of the most successful developing nations is South Korea. In the early 1950s, South Korea was one of the poorest nations in Asia. It had the highest **population density**–number of

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people per square mile of land area–in the world. It also had a war-torn economy that had to be rebuilt.

The South Korean government opened its markets to world trade. In addition, the government focused only on a few industries so that its people could gain experience producing and exporting for world markets. Businesses in the South Korean economy first began to produce inexpensive toys and consumer goods for the world market. Next, they moved into textiles such as shirts, dresses, and sweaters. Then they invested in heavy industry, such as shipbuilding and steel manufacturing. Later, South Korea produced consumer and electronic goods such as radios, televisions, microwave ovens, and home computers. Most recently, the country has been making a strong bid as a leading producer of automobiles. The South Korean experience shows that a country can change a war-damaged economy to a well-developed, highly industrial one.

Economic Development

South Korea The Republic of Korea, also know as South Korea, overcame overwhelming odds to become the second largest economic power in Asia and the eleventh largest in the world. ***What plans did South Korea implement to bring about economic growth?***

Section 3 Assessment

Checking for Understanding

1. **Main Idea** What can a country do to encourage economic development?
2. **Key Terms** Define expropriation, soft loan, free-trade area, customs union, European Union (EU), euro, ASEAN, cartel, population density.
3. **Describe** one internal and two external sources of funds for economic development.
4. **Describe** the role of international lending and developing agencies.
5. **Explain** how regional cooperation aids economic growth.

Applying Economic Concepts

6. **Growth and Development** Provide an example to support the following statement: Economic growth in developing nations is often slowed by the internal political problems and external political goals of industrialized nations.

Critical Thinking

7. **Drawing Conclusions** Developing countries often need capital from foreign investors. What economic and political conditions serve to encourage this kind of investment?

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

CRITICAL THINKING Skill

Summarizing Information

Have you ever read something and just a short time later forgotten what it was all about? Summarizing information–reducing many sentences to just a few well-chosen phrases–helps you remember the main ideas and important facts contained in a longer reading selection.

Learning the Skill

To summarize information, follow these guidelines:

- Your summary should be much shorter than the reading selection.
- Your summary should contain the main ideas of the reading selection.
- Your summary should not contain your opinion. It should contain only the opinion of the person who wrote the selection.
- Your summary sentences and phrases should not be copied word for word from the selection. Write a summary in your own words to be sure that you understand the main ideas of the selection.

Memorial sculpture, Hiroshima Peace Park

Practicing the Skill

Read the selection below, then answer the questions that follow.

During the 1950s, foreign aid from industrialized countries was considered absolutely necessary for the economic growth of developing nations. European countries and Japan, just beginning to recover from the massive destruction of World War II, were unable to provide aid during that period. The United States, which had helped with Japan's and Europe's recovery, provided the largest share of aid to developing nations during that decade. When Europe and Japan became richer, the distribution burden shifted. From 1960 to 1990, the United States's percentage of total aid supplied by the Western nations to developing countries dropped from 60 percent to 17 percent.

1. What is the main idea of this paragraph?
2. What are the supporting details of the main idea?
3. Write a short summary that will help you remember what the paragraph is about.

Application Activity

Spend fifteen minutes reading and summarizing two articles on the front page of today's newspaper. Circle the articles and have a classmate ask you questions about them. How much were you able to remember after summarizing the information?

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

Chapter 19 Summary

Section 1

Economic Development (pages 521–526)

- **Developing countries** have the same problems that industrialized countries have, only their problems are much larger.
- With more than 1.2 billion people in the world existing on an income of less than $1 a day, concern for developing countries is humanitarian as well as political.

- Developing countries face numerous obstacles, including population pressures from high **crude birthrates** and increasing **life expectancies.**
- A shortage of natural resources, limited education and technology, religion, large **external debts, capital flight,** corruption, and the aftermath of war all add to the problems of developing countries.
- The **IMF** and the **World Bank** are two international agencies that help with development.

Section 2

A Framework for Development

(pages 528–531)

- It helps to think of economic development as proceeding in stages, even if this does not always describe the pattern experienced by every nation.
- The stages include **primitive equilibrium,** breaking with primitive equilibrium, **takeoff,** semidevelopment, and high development.
- The World Bank recommends that developed nations reduce trade barriers, reform macroeconomic policies, increase financial support, and support the policy reforms of the developing countries.
- The World Bank also recommends that the developing countries themselves invest in people, improve the climate for enterprise, open their economies to international trade, and revise their macroeconomic policies.

Section 3

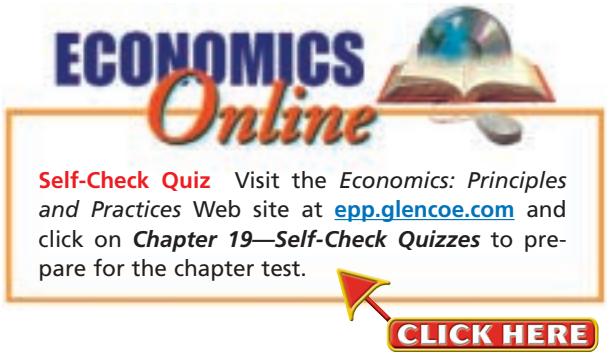
Financing Economic Development

(pages 533–537)

- Developing countries need to encourage saving to secure a domestic source of investment funds. Command economies often try to force saving by mobilizing resources in a manner that restricts individual freedoms.
- Attempts to secure capital through **expropriation** usually backfire because foreign investors become fearful of investing.
- External funds are sometimes available from foreign governments and banks; the World Bank and the IMF also provide considerable assistance.
- Some countries have been able to help themselves through regional cooperation in the form of a **free-trade area,** or a **customs union** such as the **European Union.**

- The ten ASEAN countries are working to develop a free-trade area by 2008.
- The oil-producing nations also organized a **cartel,** called OPEC, to increase the price of oil.
- South Korea is a striking example of a developing nation having achieved success: it has developed from a poor war-torn economy to the eleventh-largest economy in the world.

Chapter 19 Assessment and Activities



Identifying Key Terms

Write the key term that best completes the following sentences.

a. population density
b. customs union
c. primitive equilibrium
d. external debt
e. capital flight
f. expropriation
g. free-trade area
h. cartel
i. crude birthrate
j. takeoff

1. A(n) _____ is the formal arrangement to limit the production of a product.
2. A cooperative trade arrangement among nations that does not set uniform tariffs for nonmembers is called a(n) _____ .
3. A(n) _____ is a cooperative trade arrangement among nations that sets uniform tariffs for nonmembers.
4. A developing country may have a very high _____ , contributing to rapid population growth.
5. When _____ becomes too large, countries have difficulty paying the interest.
6. The least developed stage in economic development is called _____ .
7. The third stage of economic development is the _____ .
8. The problem of _____ occurs when corrupt officials take money out of the country and deposit it abroad.
9. When _____ takes place, it is harder for developing nations to attract foreign capital from industrialized countries.
10. The number of people per square mile of land is a measure of _____ .

Reviewing the Facts

Section 1 (pages 521–526)

1. **Identify** three reasons why industrialized countries are concerned about the problems of developing nations.
2. **Name** the condition in which the average number of births and deaths are approximately equal.
3. **Identify** two agencies that help developing economies.

Section 2 (pages 528–531)

4. **Describe** what happens in a developing country in the stage of breaking with primitive equilibrium.
5. **Identify** four changes that take place in the takeoff stage of economic development.
6. **List** the four World Bank recommendations for developing nations.

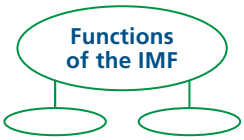
Section 3 (pages 533–537)

7. **Name** three sources of financial capital for development.
8. **Explain** how a developing country can attract foreign capital.
9. **List** three international agencies that provide funds for economic development.

Thinking Critically

1. **Predicting Consequences** What do you think would happen if industrialized nations and international agencies chose to withdraw support for developing nations?

2. **Summarizing Information** What are the functions of the IMF? Use a graphic organizer similar to the one below to help answer the question.



3. **Demonstrating Reasoned Judgment** Would it be effective policy for the United States to increase financial aid to developing nations, regardless of their internal political conditions or economic policies? Explain the reasoning behind your answer.
4. **Making Generalizations** Studies indicate that, in general, landlocked nations tend to have lower per capita income levels than surrounding nations that are bordered by oceans and seas. Why do you think this is the case?

Applying Economic Concepts

1. **Growth and Development** How will the economic growth and development of developing countries affect you in the future?
2. **Primitive Equilibrium** Why is it increasingly unlikely that countries in the world today will remain in the primitive equilibrium stage of economic development?
3. **Drawing Conclusions** Developing nations often need capital from foreign investors. What economic and political conditions serve to encourage this kind of investment?

Math Practice

Suppose that a small country has a per capita GNP of $20,000 and a population of 1,000,000. How large is the total GNP? If population is expected to grow by 20 percent in the next ten years, and if total GNP is only expected to be 10 percent larger, what will be the per capita GNP in 10 years?

Thinking Like an Economist

What advice would you give a developing nation that was trying to decide between a command-type economy and a market-based economy?

Technology Skill

Using E-Mail For one week, keep a journal of all the economic problems of developing nations that you hear reported in the news. List the countries in one column and their problems in a second column.

Using the information you collected, write a plan detailing how the United States could assist in alleviating some of the economic problems of a specific country. E-mail your plan to your local representative or legislator. Be sure to support your proposal with statistics, facts, quotes, and historical events.

Building Skills

Summarizing Information A summary is a list of the major points or themes of something. To summarize is to present those points or themes briefly and without details. Read the following excerpt, then summarize the main points.

A problem for many developing countries is a lack of infrastructure. Infrastructure refers to the physical developments necessary for efficient production and distribution of goods and services. Such things as roads, ports, electric generators, telephones, and sewers are considered infrastructure. Without these things, it is difficult for an economic system to function efficiently. The lack of infrastructure makes it impossible for such countries to compete successfully with more developed nations. Building an infrastructure is very expensive. Many developing nations cannot afford to invest in these improvements.

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

A Case Study:

SHOULD CHILD LABOR BE ABOLISHED?

Although it may surprise many Americans, child labor is prevalent in many parts of the world today, especially in developing countries. The estimates vary, but perhaps 200 million children under the age of 12 work regularly instead of going to school. Sometimes, the children start to work as soon as they are able; some of the youngest workers are just three years old.

Should the United States take steps to end child labor? Many people answer that question with a resounding "Yes!" They hold that child labor is immoral. The children, they say, are virtual slaves. Many are treated harshly, even cruelly—forced to work 12-hour days at mind-dulling yet dangerous tasks. These activists have put forth a variety of proposals aimed at eliminating child labor throughout the world.

Other people, however, oppose any such action. While deploring any mistreatment of children, they emphasize the contexts in which the children live. The cultures in many developing countries, they point out, support children working, while the state of the economies of these countries often requires it. Westerners, they say, may oppose child labor, but are in no position to force their beliefs onto other countries.

As you read the selections, ask yourself: Should the United States work to abolish child labor in developing countries?

PRO Child Labor Is "Reprehensible"

[There is] an unmistakable trend . . . toward convergence on global condemnation of child labor. . . .

However, . . . global child labor continues to flourish. The movement toward convergence in law seems strangely detached from everyday experience. Because it is illegal almost everywhere, child labor remains largely a hidden phenomenon, confined to the back channels and informal sectors of many economies, including advanced economies. The simple fact that child labor remains widespread would seem to belie any convergence of global sentiment around its eradication. The sheer magnitude of the problem suggests a movement in law quite divergent from plain reality. The gross dimensions of the problem provide alarming support for the conclusion that cultural relativism may be prevailing–that local exceptionalism may dominate over convergent trends.

But examination of the history of child labor in advanced economies brings the argument full circle. While it can be argued that use of child labor is particular to a nation's current stage of economic development (a relativist argument), it also appears to be true, in the main, that advanced nations, always and everywhere, have grown beyond their heavy reliance on child labor and, thus, every nation should eventually be expected to do so (a universalist argument). When the debate is shifted in this way, the relevant question becomes: is heavy reliance on child labor necessary to economic development? We have shown that it is not; that it has always been economically inefficient and injurious. . . .

Child labor is inappropriate because, first, it is (or will come to be seen as) morally reprehensible and, second, it is economically inefficient and injurious. Case closed.

–Hugh D. Hindman and Charles G. Smith, *Journal of Business Ethics*

"Cultural Interference Is Not the Answer"

Ah, America! Thy commandeering ways!

We, the self-styled world's policeman, are seeing the error in our authoritarianism, our imposition of U.S. values on foreign cultures, our self-righteous yet mistaken belief that our way is the best way, indeed, the only way. . . . I'm talking about child labor. . . .

Even the previously unbending International Labor Organization has recognized the validity of not trying to force other cultures to adopt Western ideals. Several years ago it amended its broad-brush policy against all child labor after hearing from children in a variety of cultures at an international conference on child labor. . . .

Americans are finding out our lush economy provides luxuries to American families and children not afforded in many other countries, particularly poor ones. Most developing countries rely heavily on child labor. . . .

In developing countries, children are considered economic commodities. Parents love their children, of course, but they rely on them to help support the family and that is considered normal. As a result, the more children a poor family has, the greater a labor pool it possesses.

Former Pakistani Prime Minister Benazir Bhutto once told me that her country, one of the worst offenders, has passed laws that ban child labor. But every time she would try to enforce them, hundreds of thousands of parents would storm her residence. . . .

Every American would tell you our goal is to wipe out child labor completely: to bring developing nations on par with us economically so they no longer need to make 6-year-olds toil.

But . . . the fear is cultural, not economic, extinction. . . .

[W]e'll just have to learn to watch and worry, because, as we are just beginning to recognize, cultural interference is not the answer.

–Bonnie Erbe, *Journal of Commerce*

Analyzing the Issue

1. What are two basic objections that Hindman and Smith raise against child labor?
2. Would Hindman and Smith consider Erbe's argument "relativist" or "universalist"? Explain.
3. Do you think the United States should take steps to end child labor in developing countries? Explain your position.

CHAPTER 20

Global Economic Challenges

Economics & You

In order to accomplish economic development, the nations of the world have to overcome the problems that hinder their economic growth and they must make use of their resources effectively. To learn more about the challenges and opportunities of a global economy, view the Chapter 27 video lesson:

Global Economic Challenges

ECONOMICS Online

Chapter Overview Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 20—Chapter Overviews*** to preview chapter information.

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Dish-shaped solar power reflectors at a solar power station

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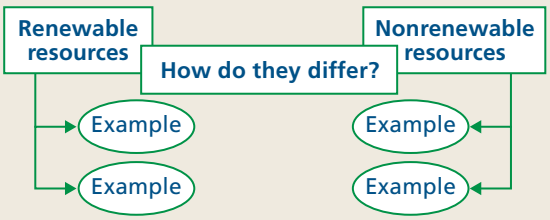
SECTION 1

The Global Demand for Resources

Study Guide

Main Idea
Worldwide economic challenges include overpopulation, food shortages, resource depletion, and environmental pollution.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer similar to the one below by explaining the difference between renewable and nonrenewable energy resources and providing two examples of each.



Key Terms
subsistence, nonrenewable resources, embargo, gasohol, aquifer

Objectives
After studying this section, you will be able to:
1. **Explain** Malthus's views on population growth.
2. **Explain** the importance of conserving nonrenewable resources.
3. **List** ways that people are using renewable energy resources to conserve scarce resources.
4. **Identify** other resources endangered by population growth.

Applying Economic Concepts
Scarcity Have you ever had a water shortage in your area? Read to find out how the price system works to solve this problem.

Cover Story

Six Billion People on Earth

WASHINGTON (AP)—Chances are it will be a boy born in the Third World on Oct. 12 [1999], but no one will know exactly which child pushes the world's population to 6 billion.


Earth's population surpassed 6 billion in 1999.

It took most of the age of humanity to mark the first billion in 1804 and more than a century to mark the second. But now the world is adding a billion every dozen years or so.

Demographers believe growth will slow down, [but] . . . median U.N. projections say it will take 14 years to add another billion people . . . . That's calculated from the yearly rate of population increase of about 1.4 percent . . .

—*The Cincinnati Post*, June 19, 1999

Scarcity has been defined as the fundamental economic problem. You experience scarcity at the personal level, and scarcity is also a problem at the national level, even for relatively prosperous nations such as the United States. At the global level, scarcity reveals itself through food, energy, and other resource shortages–all of which are compounded as world population grows.

The world population has now surpassed 6 billion, and, as you read in the cover story, the next billion will be here before long. In many respects, the earth is a very small planet, and it seems to be getting smaller every day.

The Global Population Issue

Population growth has fascinated the world ever since Thomas Malthus published his *Essay on the Principles of Population* in 1798. His views, published over 200 years ago, are still relevant because of the earth's growing population and its demand for resources.

Malthus: Views on Population

Thomas Malthus argued that population would grow faster than its ability to feed itself. The problem, he stated, was that population tended to grow geometrically, as in the number sequence 1, 2, 4, 8, 16, 32, 64, and so on. The ability of the earth to feed people, however, would grow at a slower and more constant rate, such as 1, 2, 3, 4, 5, and so on. Eventually, according to Malthus, the masses of the world would be reduced to a condition of **subsistence**–the state in which a population produces only enough to support itself.

In many countries–especially in the larger cities of the developing world–poverty is widespread. The Indian city of Calcutta, for example, has about 14 million people. Calcutta is one of the poorest and most crowded cities in the world. Hundreds of thousands of street dwellers beg and search for food in the city dumps and refuse piles. At night they sleep in the streets. Similar conditions exist in other parts of the world. In these places, the Malthusian prediction of a subsistence standard of living is a cruel reality.

Was Malthus Wrong?

In many other parts of the world, conditions are much better. Malthus did not foresee the enormous advances in productivity that have allowed an increasing standard of living to accompany a growing population. He also did not foresee that families might choose to have fewer children. In some countries, such as Japan, for example, the population is actually shrinking.

Malthus's predictions may not have been entirely accurate for the industrialized countries, but they still have long-term consequences for all nations. Today, for example, population pressures in other parts of the world are causing problems for many industrialized countries, including the United States, which is besieged by illegal immigrants from China, Mexico, and Haiti. As a result, many experts argue that it is in everyone's interest to control global population growth.

World Population Trends

Comparative world population growth rates are shown in **Figure 20.1.** For the world as a whole, the annual growth is approximately 1.4 percent a year. Although this may not seem very fast, the consequences can be enormous over time. Every year, the population increase is almost the equivalent of adding another Mexico to the world. If the population keeps growing at this rate, it will reach about 8 billion by 2020, and nearly 12 billion by 2050. At this rate, the population of the world will almost double from the time you graduate from high school until you retire at age 65.

Nonrenewable Energy Resources

Population pressure adds to the depletion of many important resources, and energy is one of these resources. Energy is necessary for production, and energy makes our lives more comfortable. In the form of gasoline, it powers cars. In the form of gas and electricity, it heats and cools homes.

Most of the energy we use comes from **nonrenewable resources**–resources that cannot be replenished once they are used. The major nonrenewable resource category–fossil fuels–is being consumed at an alarming rate and may only last for a few more generations at current consumption levels.

Oil

Oil is the biggest category of nonrenewable energy in use today–primarily because it was so inexpensive during much of the 1900s. Oil was also much more convenient to use than natural gas or coal. Because it could be refined into low-cost gasoline, automobiles were large, heavy, and usually got poor gas mileage.

The low cost of oil even affected living habits. People moved to the suburbs and then spent hours traveling to and from their jobs. Gasoline was so inexpensive that trains and city busses never became as important as the automobile.

In 1973, however, the oil-producing countries of the Middle East placed an **embargo**–a restriction on the export or import of a commodity in trade–on oil sales to the West. The embargo caused energy shortages in many parts of the world, driving the price of oil from $5 to more than $35 a barrel. Prices came

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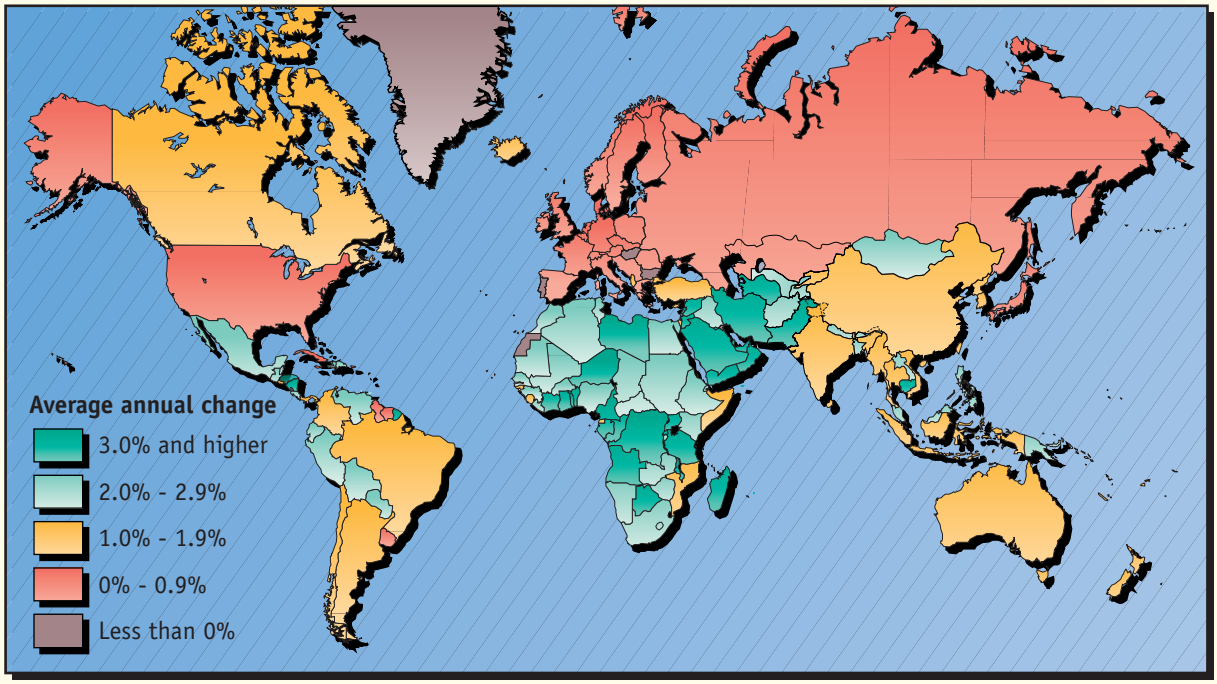
ECONOMICS AT A GLANCE

Figure 20.1

World Population Growth Rates



Source: *The World Bank Atlas,* 1999

Reading Maps The map shows the population growth rates of the countries of the world. **How does the annual growth rate in China compare with that of Brazil?**

ECONOMICS Online

Visit epp.glencoe.com and click on ***Textbook Updates—Chapter 20*** for an update of the data.

CLICK HERE

down slowly after that, reaching their inflation-adjusted pre-embargo levels in the mid-1990s. In late 1998, the price of oil even dropped below $9 a barrel, although it has since rebounded.

With the exception of the 20 years following the oil embargo, the world was flooded with, and grew up on, cheap oil. The oil was eagerly consumed and, because it is a nonrenewable resource, is gone forever.

Natural Gas

This category constitutes our second most important energy source, accounting for nearly 25 percent of energy consumption in the United States. Historically, natural gas was more difficult to transport and use than oil, and so it did not become an important energy source until much later. Eventually inexpensive natural gas became popular as an industrial fuel, and so many factories and industrial technologies were built around it.

Coal

Coal is the third-largest nonrenewable resource used in the United States. While it was the first nonrenewable resource to be used on a large scale, oil and natural gas soon displaced it because they are more convenient to use.

Today, nearly two-thirds of the world's known coal reserves are in the United States, Russia, and China. Coal is the most plentiful fossil fuel in the world, but even these supplies will eventually run out. Estimates based on the present rate of consumption indicate that the reserves will last about 200 years.

Nuclear Energy

Nuclear energy is the newest and fourth largest source of nonrenewable energy, accounting for nearly 8 percent of all energy used in the United States. The future of nuclear power is uncertain, however, for a number of reasons.

One of the reasons is cost. Nuclear reactors are expensive to build and maintain. Second, nuclear energy produces highly hazardous byproducts, the safe disposal of which poses a major problem.

Finally, there is always some chance that a nuclear plant will fail, or that another accident would happen like the 1979 near-meltdown at Three Mile Island in Pennsylvania. The 1986 meltdown of the reactor in Chernobyl, Ukraine, served as another reminder of the nuclear power hazards.

Renewable Energy Resources

Before 1973, the low price of oil gave everyone very little incentive to develop alternative energy sources. Renewable energy resources became more popular after the oil embargo, but today they still account for a small portion of the total energy we consume.

Hydroelectric Power

Historically, hydropower was used to power the mills and factories of the Northeast in the 1800s. The power was reliable, and its source–water–was free at the time. Later, a number of larger generators at the Hoover Dam and the Tennessee Valley Authority were completed to generate power on a much larger scale. Aside from these newer projects, most dams were small and could not distribute power very efficiently to other locations.

When oil was obtained cheaply from the Middle East, hydroelectric power became less important. By the late 1950s, many of the commercial power dams in the United States had been abandoned. When oil became more expensive, however, steps

Natural Resources

Energy Demand for scarce resources is one of the most pressing problems facing all nations. ***What are nonrenewable energy resources?***

were taken to bring some of the dams back into use. Today, hydroelectricpower is our most important renewable energy source, accounting for half of all renewable energy consumed in the United States.

Biomass

Energy made from biomass–wood and wood waste, peat, municipal solid waste, straw, corn, tires, landfill gasses, fish oils, and other waste–is the second most important category of renewable energy sources. While relatively new, this category accounts for approximately 40 percent of all renewable energy consumed in the United States today.

Ethanol is grain alcohol made from corn. Ethanol is used to make **gasohol**–a fuel that is a mixture of 90 percent unleaded gasoline and 10 percent ethanol. Although gasohol has not been accepted as quickly as supporters first hoped, it still has a small share of the market in some areas.

Other, lesser-known alternatives are also being used. Major food firms have made progress in converting chicken waste to fuel in the form of methane gas. This gas can then be recycled for industrial and commercial use. Over 100 cities are currently recovering and using methane gas generated in municipal landfills when the landfill waste decomposes.

Solar Energy

Solar power is the third largest source of renewable energy. Solar power has never been effectively harnessed, however, and it did not get much attention at first. After the oil embargo, the federal government began issuing grants to researchers to find ways to reduce the cost of solar energy. While solar power holds much promise, it only accounts for a fraction of the renewable energy used today.

Wind Power

The fourth-largest category of renewable energy sources is wind-generated electricity. In the early 1980s many wind farms were built, each of which produced enough electricity to power a medium-sized city. California is the largest producer of wind-generated energy, but it can also be found in Texas, Minnesota, Vermont, Hawaii, and Iowa.

ECONOMICS AT A GLANCE

Figure 20.2

The Most Dangerous Nuclear Reactors

Reading Maps Nuclear reactors serve three general purposes. Civilian reactors generate energy for electricity and sometimes also steam for heating. Military reactors create materials that can be used in nuclear weapons. Research reactors are used to develop weapons or energy production technology. **How many nuclear power plants are located in the former Soviet Union and Eastern Europe?**

While this is still a small category, wind-generated electricity is an important source of power in areas such as islands or remote peninsulas where it is difficult to obtain other forms of energy.

Other Resources

Resources other than those used to generate energy–water and land in particular–may also be in danger. In the past, American concern with water focused mainly on the pollution of the

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CYBERNOMICS SPOTLIGHT

Science

Biotechnology is making an impact in the world economy. Genetic engineering allows researchers to place a gene into a plant in order to create a new plant that can grow twice as fast. Agricultural experts estimate that within the next 40 years the world population will increase by 50 percent, which means farmers will need to produce more crops than ever before. To sustain economic growth in the developing world, experts believe that food productivity improvements must be made using this type of biotechnology.

country's waterways. Today, however, the focus has shifted to the availability of water and the realization that water is in critical supply in many parts of the country.

More than 80 percent of the water consumed in the United States is used in agriculture, and most of this water is used in surface irrigation, which has a high evaporation rate. As a result, much water is lost into the atmosphere.

Farmers have been able to tap large sources of water from rivers, streams, ponds, and **aquifers**–underground, water-bearing rock formations. Aquifers supply nearly 40 percent of the water that farmers use and are also the source of fresh water for many communities.

One of the largest aquifers in the country is the Ogallala Aquifer, which supplies water to the High Plains states from Texas to Nebraska. So much water has been pumped out, however, that the aquifer's water table has been dropping about three feet a year. Some experts even predict that the Ogallala Aquifer will run out of water in the next 40 or 50 years.

The water shortage is also a problem in southern California. Over the years, plans have been proposed and projects have been undertaken to bring in water from areas hundreds of miles away.

Land is another valuable natural resource subject to the demands of a growing world population. Land, however, is different from other resources because there is only a fixed supply that cannot be moved from one place to another.

A growing population has the effect of reducing the amount of land available for agriculture. As communities grow, factories, roads, and houses are built on the fertile land near the rivers. The development of this land forces the farmers to move to the outskirts. The phenomenon, now known as urban sprawl, has claimed some of our finest farmland–covering fertile fields with expressways, shopping centers, and housing developments.

Section 1 Assessment

Checking for Understanding

1. **Main Idea** How does population growth affect world resources?
2. **Key Terms** Define subsistence, nonrenewable resources, embargo, gasohol, aquifer.
3. **Describe** how Malthus believed population growth would affect the future of the planet.
4. **Identify** the importance of conserving nonrenewable resources.
5. **List** the major renewable resources today.
6. **Describe** the effects that a growing population has on scarce resources such as aquifers.

Applying Economic Concepts

7. **Scarcity** During the oil embargo, many people openly advocated nonprice gasoline rationing. Some favored allowing each automobile owner to use 10 gallons per week. What are the pros and cons of such a mandatory rationing program?

Critical Thinking

8. **Making Comparisons** How do renewable resources differ from nonrenewable resources?

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

Profiles in Economics

A Classical Economist: Thomas Malthus

(1766–1834)

Thomas Malthus was an English economist, sociologist, and member of the clergy who pioneered modern population study. He was a kind, gentle person dedicated to his father and his church. He was also the economist who is credited with giving economics the title of "the dismal science."

EDUCATION

Malthus was born to wealthy parents and was educated at home by his father and by private tutors. At age 18 he enrolled at Jesus College, Cambridge, to study mathematics and the classics.

While he was away from home, Malthus and his father often exchanged letters debating the popular issues of the day. At one point, the elder Malthus became fascinated with a popular utopian vision that promised eventual peace, prosperity, and equality for all. Malthus attacked the argument in a 50,000-word letter to his father. The elder Malthus was so impressed that he encouraged Thomas to publish the treatise for others to read. The result was *An Essay on the Principle of Population as It Affects the Future Improvement of Society,* published in 1798.

POPULATION THEORY

The book was an instant success that was to change forever the way people viewed population. In it, Malthus argued that poverty and distress would be the eventual fate of people, not the popular utopian vision. He reasoned that population would increase at a geometric rate (1, 2, 4, 8, 16, . . .), while food supplies would increase at an arithmetic rate (1, 2, 3, 4, 5, . . .).

According to this progression, population growth would eventually outstrip the available food supply, resulting in famine, misery, and a subsistence standard of living for the masses.

At first, Malthus thought only three factors could check the growth of population: war, famine, and disease. Several years later, as he refined his ideas, he added a fourth check: moral restraint. Separately or together, these factors could raise the death rate, lower the birthrate, or both. In Malthus's view, however, these restraints on population growth would not be enough to prevent most of the world from forever remaining at the subsistence level. Despite his considerable accomplishments in other aspects of economics, Malthus is best remembered for his pessimistic views on population.

Examining the Profile

1. **Evaluating Information** Do you agree or disagree with Malthus's predictions about population? Why or why not?
2. **For Further Research** Find out what Malthus's other contributions to economics were.

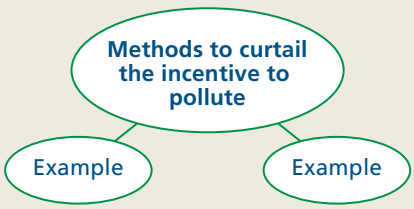
SECTION 2

Economic Incentives and Resources

Study Guide

Main Idea
Incentives help preserve scarce resources.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer similar to the one below by providing examples of ways to curtail the incentive to pollute.



Key Terms
glut, pollution, acid rain, pollution permit

Objectives
After studying this section, you will be able to:
1. **Explain** how the price system helps conserve water, natural gas, and oil.
2. **Describe** government efforts to limit pollution.
3. **State** the importance of using resources wisely.

Applying Economic Concepts
Markets and Prices Have you ever traveled to different gasoline stations to get the cheapest price for a gallon of gas? Read to find out how markets and prices operate in the free enterprise system.

Cover Story

Lawmakers Can Recycling in House

Recycling area

WASHINGTON (AP)—The House of Representatives has rejected mandatory recycling for its offices.

The House has had a voluntary recycling program for a decade. But the Associated Press reported last month that most congressional offices were still mixing aluminum cans, bottles and different grades of paper. Many federal agencies and local governments separate their trash and sell recyclable material.

—*The Washington Post*, June 11, 1999

Economic systems require incentives to make them work smoothly. In a market economy, incentives such as the profit motive and prices can be used to preserve scarce resources.

Economic incentives are important because they tend to encourage more widespread and lasting results than other programs that rely on conscience, patriotism, or other motivations. Those who create them, as you read in the cover story, often abandon voluntary conservation programs.

The Price System

With resources becoming increasingly scarce, it is important to see how the price system contributes to the conservation—or lack—of scarce resources. The examples that follow illustrate this influence.

The higher price for oil after 1973 dramatically affected the production of oil. When oil was priced below $5 a barrel, few countries were

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willing to devote large resources to retrieve it. When the price increased to $35 and more, many countries increased their production almost overnight. At the same time, interest in alternative energy sources soared, and countries poured billions into energy-research projects ranging from shale oil to solar power.

By 1981, however, prices began to fall because of a worldwide **glut**–a substantial oversupply–of oil. A decline in demand caused by a recession contributed to the worldwide oversupply. People had also learned to conserve energy, which further reduced the demand for oil.

The collective impact of the increase in world supply and the decline in demand caused OPEC to lose some of its ability to control the supply of oil. This control slipped even further after the Persian Gulf War, when some OPEC members increased oil production to replenish their financial reserves depleted during the war. Finally, oil prices reached their pre-embargo levels in the mid-1990s.

Lower oil prices had several consequences. First, the search for alternative energy sources began to wane. Second, the exploration for new oil slowed dramatically because companies already had enough oil. Third, consumers changed their spending habits again. New houses became large once more, and consumers opted for low-mileage, sport utility vehicles instead of fuel-efficient economy cars.

In the end, the very mechanism that encouraged people to conserve energy when oil prices were high–the price system–did exactly the opposite when oil prices went down again.

When farmers pump water out of the ground to water their crops, they use pumps driven by electricity or natural gas. When water tables fall because of pumping, it costs more to pump the water. The increased cost of pumping encourages everyone to use it more efficiently, thus conserving a scarce resource.

In time, the falling water table makes some of the shallow wells useless, requiring deeper and more costly wells to be drilled. At this point, the price system will affect farming decisions again. Deeper wells will be dug for the most profitable crops, while marginal and unprofitable crops will be abandoned.

Ultimately, the price system works to establish an equilibrium between the rising cost of obtaining water and the profitability of the crops grown with the water. Although some crops and fields will be abandoned, they are likely to be the ones that were the least productive in the first place. As a result, the actual amount of lost agricultural output will not be that large.

When the price of natural gas was low in the 1960s, the quantity demanded was high. Because government regulated the price, however, producers had little incentive to increase its production.

Congress then tried to stimulate gas discovery and production by lifting the price controls on deep gas-pockets of natural gas, 15,000 feet or more below the earth's surface. The price of this gas then rose to three or four times its previous level, causing even more exploration for deep gas. Later, all gas price controls were removed, which encouraged even more production.

Conservation

The Price System Surface irrigation systems are fairly common in the United States. ***How does the price system affect farming decisions?***

The lack of interest in drilling for shallow gas was consistent with the law of supply, which maintains that the lower the price paid to producers, the less will be brought to market. Also consistent with the law of supply was the effort by producers to produce more of the deregulated deep gas when its price went up.

Pollution and Economic Incentives

Pollution is the contamination of air, water, or soil by the discharge of poisonous or noxious substances. Pollution is a problem that most countries face today.

Careers

EPA Inspector

The Environmental Protection Agency (EPA) is the federal agency responsible for protecting the environment. It employs thousands of inspectors to supervise enforcement of pollution control laws and regulations.

The Work

EPA inspectors examine air, water, and soil for evidence of pollution. Investigating the cause and scope of pollution requires inspectors to visit sites where pollution might occur and test for pollutants and collect samples for analysis. They monitor the air quality of major cities and of industrial sites. After completing their examination, EPA inspectors put together reports of their findings and initiate action to stop further pollution.

Qualifications

EPA inspectors generally have a college education with a specialization in environmental or biological science, plus several years of experience in the field. As with most government jobs, EPA applicants must pass a civil service examination.

The Incentive to Pollute

Pollution does not occur on its own: it occurs because people and firms have an incentive to pollute. If that incentive can be removed, pollution will be less of a problem.

For years, factories have located along the banks of rivers so they could dump their refuse into the moving waters. Some factories that generated smoke and other air pollutants located farther from the water, but their tall smokestacks still blew the pollutants long distances. Others tried to avoid the problem by digging refuse pits on their property and burying their toxic wastes.

In all three situations, factory owners were trying to lower production costs by using the environment as a giant waste-disposal system. From an economic point of view, the reasoning was sound. Firms get ahead when they lower production costs. Those who produce the most at the least cost make the most profits.

The cost of pollution to society as a whole, however, is huge. For example, **acid rain**–a mixture of water and sulfur dioxide that makes a mild form of sulfuric acid–falls over much of North America, damaging countless rivers and streams. Fertilizer buildup and raw sewage runoff poison ecosystems in other areas. The damage caused by pollution is extensive, but it can be controlled. One way to control pollution is through legislated standards. Another way is through economic incentives.

Controlling Pollution

Legislated standards include laws that specify the minimum standards of purity for air, water, and auto emissions. Congress, for example, has declared that all automobiles sold in the United States must meet certain pollution standards.

Legislated standards can be effective, but they are generally inflexible. Once a standard is set, a firm has to meet it or cease production. Because of this, many firms lobby extensively to exempt their industry from the pollution controls.

Another method of controlling pollution is to have companies pay taxes on the amount of pollutants they release. The size of the tax would depend on the severity of the pollution and the quantity of toxic substances being released.

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Fighting Pollution

The Incentive to Pollute Pollution is one of the painful by-products of modern life. Damage caused by pollution is extensive. ***What methods are used to hinder the incentive to pollute?***

Suppose a community wants to reduce air pollution caused by four factories, each of which releases large quantities of coal dust. A $50 tax on every ton of coal dust released into the air would be applied to each factory. Devices attached to the top of the factory's smokestacks would measure the amount of dust released during a given period, and the factory would be billed accordingly.

Each company would then have the choice of paying the tax or removing the pollutants themselves. This tax approach does not try to remove all pollution. It does, however, allow individual companies freedom of choice. It also provides flexibility that legislated standards lack–and may even prevent some plants from closing entirely.

Some firms would rather pay the tax than clean up their own pollution. These firms, however, help fund the pollution clean-up campaign. Consumers will not have to fund these efforts out of their income, sales, or property taxes.

Pollution Permits

The Environmental Protection Agency (EPA) currently uses a similar system to reduce sulfur dioxide emissions at coal-burning electric utilities. Sulfur dioxide emissions from the burning of coal and oil react with water and oxygen to form compounds that fall to the earth as acid rain. The EPA's target is to ultimately reduce sulfur dioxide emissions to a level of nine million tons per year.

CLICK HERE

ECONOMICS Online

Student Web Activity Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 20—Student Web Activities*** for an activity on the Environmental Protection Agency.

Issuing Permits

The EPA started its program by issuing sulfur dioxide **pollution permits**–federal permits allowing public utilities to release pollutants into the air–in 1993. Utilities are not allowed to operate without them, but if a utility has more permits than it needs, it can sell them in one-ton increments. Thus, utilities that want to spend money on emissions cleanup could sell their permits, and use the cash to clean up their emissions. Those who prefer to purchase and use the permits can do so.

The first set of pollution permits went on sale in March 1993 at the Chicago Board of Trade. The one-ton permits brought prices ranging from $122 to $450 each. The EPA issued additional permits in successive years, but fewer permits will be issued as time goes on, making them scarcer and more expensive. Ultimately, the utilities will either have to pay very high prices for the permits, or they will have to buy additional antipollution devices.

Advantages

The system also has advantages for environmentalists who wanted utilities to reduce pollution at even faster rates. Several environmental groups purchased the pollution permits with their own funds, making them scarcer and therefore more expensive, for the utilities.

Did you know?

Global Warming Most climatologists agree that the earth is likely to warm by as much as 2° to 9° F over the next 50 to 60 years. Human activities have released gasses that trap in the sun's rays and heat the earth. Scientists believe that polar caps will begin to melt, raising sea levels from at least a foot to as much as 6.6 feet in the next century. An estimated one-third of the world's population who live within 40 miles of the sea could be facing severe flooding and depletion of their freshwater sources.

Using Resources Wisely

The resource challenge is vital to a growing global economy. Resources become scarce when the quantity demanded for them is greater than the quantity supplied. In a market economy, the price system plays a major role in the allocation of resources. It tells consumers when resources are scarce. It also helps decision makers allocate resources more wisely.

Economists who understand the workings of a market economy are optimistic about the future, especially if the price system is allowed to function and fulfill its role in the economy. As long as the price "system" is allowed to operate, we will never suddenly run out of an endangered resource.

Section 2 Assessment

Checking for Understanding

1. **Main Idea** What are two incentives that can be used to preserve scarce resources in a market economy?
2. **Key Terms** Define glut, pollution, acid rain, pollution permit.
3. **Describe** how the price system helps conserve water, natural gas, and oil.
4. **Identify** the ways that the government tries to limit pollution.
5. **Explain** why resources should be used wisely.

Applying Economic Concepts

6. **Markets and Prices** Suppose that the demand for natural gas increases sharply because of a series of extremely harsh winters. How would a price increase affect gas usage as well as research efforts by natural gas companies?

Critical Thinking

7. **Making Comparisons** How do legislated standards and economic incentives differ in regard to pollution control?

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

BusinessWeek

MAY 24, 1999

Newsclip

Foreign plants and animals are invading North America as a result of increased global trade and tourism. It is estimated that invasive species cost the U.S. more than $122 billion a year in damages.

They're Here, and They're Taking Over

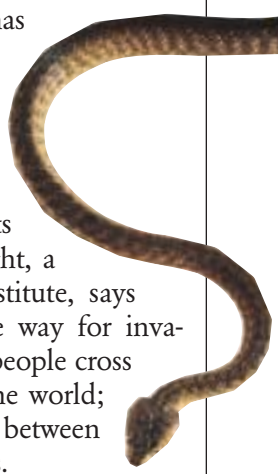
Bioinvasion, the spread of nonnative species, is fast becoming one of our most costly ecological problems as it disrupts food and agriculture, destroys wetlands, interferes with shipping, and drastically alters natural habitats. . . .

. . . The list of troublemakers include noxious weeds ($35 billion), harmful insects ($25 billion), and organisms, such as the AIDS virus and cholera, that cause human disease ($6.5 billion). . . .

There is also a huge untallied cost. Exotic species destroy the ecosystems that support native species, leaving them nowhere to go. . . .

Jack Russell terriers sniffing for snakes in cargo at Guam airport

In Guam, the brown tree snake has eradicated 9 lizard species and 10 types of forest bird. . . .



In many ways, bioinvasion is the dark side of globalization. With more and more goods entering the country, it's easier for pests to stow away. Christopher J. Bright, a researcher at the Worldwatch Institute, says booming tourism also opens the way for invasions. Every day, some 2 million people cross an international border around the world; every week, a million people move between developed and developing nations.

Efforts to control the menace have been far too fragmented. There are 24 federal agencies with some authority to regulate nonnative species, and it has been difficult to coordinate their efforts. . . .

. . . Under the current system, an import is deemed safe unless it's on a list of organisms known to be harmful. Often, by the time federal regulators have the evidence to blacklist a particular species, it's too late. . . .

Ecologists would prefer a "white-list" law, one that bans entry of plants and animals until they're proven innocent. New Zealand and Australia already have such laws, but some U.S. officials worry that such a policy could alienate trading partners. Still, there is a growing sense that it may be worth the risk. . . .

Examining the Newsclip

1. **Understanding Cause and Effect** How has globalization contributed to bioinvasion?
2. **Analyzing Information** Why would a "white-list" law alienate some U.S. trading partners?

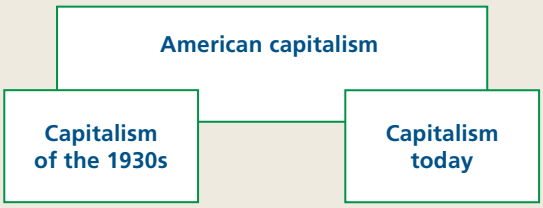
SECTION 3

Applying the Economic Way of Thinking

Study Guide

Main Idea
Economics provides a foundation for analyzing choices and making decisions.

Reading Strategy
Graphic Organizer As you read the section, complete a graphic organizer similar to the one below by describing how American capitalism has changed.



Key Terms
cost-benefit analysis, modified free enterprise economy

Objectives
After studying this section, you will be able to:
1. **Describe** the reasoned approach to economic decision making.
2. **Understand** how our market economy will be able to cope with the future.

Applying Economic Concepts
Cost-Benefit Analysis Have you ever decided not to do something because the cost of doing it was greater than the benefits that would be received? Economists call this cost-benefit analysis—and they use this analysis often. If you think the same way, perhaps you are starting to think like an economist.

Cover Story

The Outlook—Pushing Adam Smith Past the Millennium

WASHINGTON—If Adam Smith were to visit the U.S. at the millennium's end, he would like what he saw. . . . Today, the invisible hand is more limber and supple than ever.


Free market idea grows

In the past two decades, globalization has forced American companies to compete on a worldwide scale, and the collapse of communism has extended capitalistic principles to every corner of the globe. Deregulation has injected market forces into areas long insulated from them . . . [and] the Internet has helped better-informed buyers find legions of new sellers, and sellers find far-flung buyers. . . .

—*The Wall Street Journal*, June 6, 1999

As a science, economics is concerned with the way in which people cope with scarcity. Because scarcity is a universal problem, the study of economics is important to everyone.

The economic system based on capitalism and free enterprise has, as you just read in the cover story, done quite well. There is also every likelihood that it will continue to do well in the future–although we also expect some evolution and modifications as we deal with new challenges and opportunities.

A Framework for Decision Making

Through the study of economics, you learn that choices must be made. You begin to discover different ways to analyze a problem, and that alternatives must be considered. The late economist Kenneth Boulding observed that economics has evolved to the point that it has now become a generalized theory of choice.

CONTENTS

THE GLOBAL ECONOMY

The Information Revolution

In this era, not only is capitalism global but so is the Information Revolution. As powerful data networks spread, the developing nations are being drawn into the borderless information economy.

Inside a gleaming computer center in Taipei, a young engineer labors late into the night. Connected by the Internet to some of the best software writers in the U.S., he is helping design a digital phone system that will match anything the U.S. or Europe can muster.

In China's northern boomtown of Tianjin, an auto worker pores over documents on how to arrange a low-interest mortgage on a modern condominium. In Mexico City, a working couple plows savings into a mutual fund, all to put two children through private school.

Ingenuity, new prosperity, middle-class striving—familiar Western values are appearing on the frontiers of capitalism. Multiply these scenes by the millions, and you see the shape of a revolution that will transform the global economy well into the next century. Already, capitalism is flourishing in regions as diverse as communist Asia and the former dictatorships of Latin America. Affluence is lifting millions out of poverty, giving many the chance to purchase their first Fiats and Toyotas as well as their first Apple computers and Panasonic VCRs. And inflation is brought to heel in even the most wayward economies.

The implications are huge for rich and poor alike. Hundreds of millions of peasants are leaving ancient ways of life for the factory. Cities such as Guangzhou and Bangalore teem with new inhabitants. Many are living poorly, of course, but just as many are thriving.

—*Business Week,* December 14, 1998

Critical Thinking

1. **Summarizing Information** What is the main point of the article? Write a thesis sentence in your own words explaining the main point.
2. **Drawing Conclusions** "The Information Revolution will draw economies from different parts of the world closer." Do you agree or disagree with this statement? Explain your answer.

Economics provides a framework for decision making that helps people to become better decision makers. The future will be different than the past, or even the present for that matter, but some things in economics–the way we think about problems–are likely to remain the same.

A Reasoned Approach

Economic decision making requires a careful, reasoned approach to problem solving. The National Council on Economic Education, an organization dedicated to the improvement of economic literacy in the United States, recommends five steps. These steps provide useful guidelines to decision making.

1. State the problem or issue.
2. Determine the personal or broad social goals to be attained.
3. Consider the principal alternative means of achieving the goals.
4. Select the economic concepts needed to understand the problem and use them to appraise the merits of each alternative.
5. Decide which alternative best leads to the attainment of the most goals or the most important goals.

–*A Framework for Teaching the Basic Concepts,* 1996

Life is full of trade-offs, but you will be better equipped to deal with the future if you know how to analyze the problems you will encounter.

Decision Making at the Margin

Economists use a number of tools to help them analyze and make decisions. Some of these tools include production possibilities curves, supply and demand curves, production functions, and even the National Income and Product Accounts.

One of the most important decision-making tools is the concept of marginal analysis. For example, when a firm makes a decision to produce additional output, it compares the extra cost of production with the extra benefits to be gained. If the benefits outweigh the costs, the firm decides to continue with the additional production. If the costs outweigh the benefits, the firm decides not to produce the additional output.

This process–**cost-benefit analysis**–involves comparing the costs of an action to its benefits. Firms use cost-benefit analysis when they make decisions to produce or purchase additional capital equipment. Many government agencies use it when they evaluate programs. Individuals also use it when they make decisions. Cost-benefit analysis is even used to make choices among economic goals. Some choices will work against one goal while favoring another, but evaluating the costs and benefits of each choice helps in making decisions.

Finally, we must remember that the economist uses a very broad definition of costs–that of opportunity costs. This ensures that we account for all of the costs of a decision, not just the monetary ones.

STANDARD & POOR'S INFOBYTE

Economic Forecasts An economic forecast is a projection regarding the future direction of all or part of the economy. Economists analyze economic data to identify trends, and perform statistical evaluations to build their forecasts. Economists are like scientists in that they study phenomena by making observations based on collected data. The purpose of their studies is to uncover relationships between economic events and variables. An economist may, for example, study trends in the price and sales behavior of the domestic automobile market to arrive at a prediction of future auto sales. Businesses and governments rely on such forecasts for policy-making and goal-setting purposes. Individuals rely on these forecasts for their spending and investing decisions.

Coping With the Future

Everyone wants to know what will happen to the economy in the future. How will it adjust and what course will it take? Part of the answer can be found by examining the way markets work.

Markets and Prices

Our **modified free enterprise economy**–a free enterprise economy with some government involvement–is one that allows buyers and sellers to freely make the decisions that satisfy their wants and needs. The forces of supply and demand interact to establish prices in a market. Prices, in turn, act as signals, helping producers and consumers to make or even alter their spending decisions.

Prices also influence the allocation of resources across markets. The high price of oil in the 1970s made other energy sources competitive. In the 1980s, the high prices of personal computers attracted producers. Competition soon lowered prices and made the same computers affordable to mass markets.

A market economy has many advantages, including the ability to adjust to change gradually, without the need for government intervention. As long as the forces of supply and demand are allowed to function, they will send producers and consumers the signals needed to reallocate resources. Although no one knows what the future will bring, capitalism has demonstrated its ability to adapt in the past, and it is likely to do so again in the future.

The Triumph of Capitalism

During the 1930s, the forces of socialism and communism were sweeping the world, while capitalist countries were in economic depression. Communism in the Soviet Union had considerable

impact upon the world, and socialist parties were on the rise in the European colonies in Africa.

Since then, communism in the former Soviet Union has collapsed under the weight of its own inefficiencies. Many socialist countries have embraced capitalism and the discipline of the market system. In addition, many developing countries have chosen capitalism as their economic system. Many emerging economic powers–including Singapore, South Korea, and Taiwan–owe much of their remarkable growth to capitalism.

Capitalism is now the dominant economic force in the world, but it is not the laissez-faire capitalism of the past. Capitalism has changed because people have addressed some of the weaknesses that Karl Marx and others identified many years ago.

The capitalism of the 1930s was ruthlessly efficient in that it provided only for those who produced or earned enough to buy the necessities of life. Early capitalism had little room for the elderly, the ill, or the incapacitated. Many economies today, including that of the United States, have a modified free enterprise economy, or modified private enterprise system. This is a free-market economy based on capitalism, yet modified by its people to satisfy the economic goals of freedom, efficiency, equity, security, full employment, price stability, and economic growth.

Capitalism has evolved over the years, and it shows every sign of continuing to do so in the future. In this respect, capitalism adjusts to change the same way a market adjusts to small changes in supply and demand–incrementally, with adjustments so small that they are hardly noticed in the short run. This ability to evolve, and to adjust to the demands placed on it, are strengths of capitalism that will continue to ensure its success.

Nature of Capitalism

Adaptability In many industrial countries, capitalism is the prevailing economic system. Capitalism is based on private ownership of the means of production and on individual economic freedom. ***How was the capitalism of the past different from the capitalism of today?***

Section 3 Assessment

Checking for Understanding

1. **Main Idea** How does cost-benefit analysis affect the decision-making process?
2. **Key Terms** Define cost-benefit analysis, modified free enterprise economy.
3. **Explain** the reasoned approach to economic decision making.
4. **Describe** how a market economy adapts to change.
5. **Explain** how marginal analysis assists in decision making.

Applying Economic Concepts

6. **Cost-Benefit Analysis** Think of a decision you must make in the next few days. How will you use your estimates of the costs and benefits to make your decision?

Critical Thinking

7. **Synthesizing Information** Provide an example of how prices act as a signal to you as a buyer and as a seller.

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

CRITICAL THINKING Skill

Making Predictions

Predicting future events is obviously difficult and sometimes risky. The more information you have, however, the more accurate your predictions will be.

Learning the Skill

Follow these steps to help you analyze information in order to make predictions.

- Gather information about the decision or action.
- Use your knowledge of history and human behavior to identify what consequences could result.
- Analyze each of the consequences by asking: How likely is it that this will occur?

Practicing the Skill

Study the following passage, then answer the questions that follow.

Market scene, Peru

In 1950, only 42 percent of Latin Americans were city dwellers; today almost 73 percent live in cities, according to the United Nations. This compares with 34 percent in Africa and 33 percent in Asia. Despite oppressive poverty, Peruvians seeking a better life, for example, have been fleeing the countryside for Lima at the rate of more than a thousand a day and building settlements that seem like a never-ending expanse of small straw huts next to a noisy highway. The trend has created megacities throughout the continent.

The equation is similar in many countries. The major city attracts one-quarter to one-third of the country's population, with many living in squalid slums . . . encircling the affluent city. Experts say that by the year 2010, Rio de Janeiro and Sao Paulo will be one continuous megalopolis 350 miles long with almost 40 million people.

–by John L. Petersen, *The Road to 2015*

1. What trend does the passage show?
2. Do you think the trend the writer describes is likely to continue?
3. On what do you base this prediction?
4. What occurrences might have an effect on changing the trend?
5. What are three possible consequences or outcomes of this trend?

Application Activity

Analyze three articles in the business section of the newspaper. Predict three consequences of the actions in each of the articles. On what do you base your predictions?

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

Chapter 20 Summary

Section 1

The Global Demand for Resources (pages 545–550)

- Over 200 years ago, Thomas Malthus predicted many of the population problems some developing nations face today–high birthrates, famine, and the threat of a **subsistence** standard of living.
- Malthus did not foresee advances in technology or that some birthrates would fall and some populations cease to grow.
- Many **nonrenewable resources** such as oil, natural gas, and coal are threatened today.
- The oil **embargo** of the early 1970s raised oil prices and encouraged Americans to seek alternative energy sources, along with alternative and renewable energy sources.
- Some renewable energy resources–hydroelectric power, biomass, solar power, wind power–have been developed, including **gasohol,** a combination of unleaded gasoline and grain alcohol.
- Other resources like water and land are also coming under pressure because of population growth.

Section 2

Economic Incentives and Resources (pages 552–556)

- During the oil embargo of the 1970s, high gas prices provided an incentive to preserve resources. When prices came back down, conservation efforts waned.
- As the population has grown and used more energy resources, people have become concerned about pollution.
- The traditional response to pollution is to have the government pass legislated standards prohibiting it.
- Economists argue that pollution cannot be controlled until the economic incentives to pollute are removed.
- Programs including pollution taxes and **pollution permits** are designed to give firms the incentive to not pollute.
- Markets have the flexibility to adjust to change–an adjustment that affects prices and the allocation of resources.

Section 3

Applying the Economic Way of Thinking (pages 558–561)

- Economics has become a generalized theory of choice and a framework for decision making.
- The National Council on Economic Education has recommended a five-point approach to decision making; the final step involves **cost-benefit analysis,** which compares the cost of a decision to the benefits gained.
- A fundamental knowledge of economics helps people cope with the future, especially now that capitalism has emerged as the dominant type of economic organization in the world today.
- Modern capitalism is not the ruthlessly efficient version of the 1930s; modern capitalism has been modified to suit the economic goals of their people.
- In the markets of the world today, supply and demand establish prices, and prices serve as signals to both producers and consumers.
- The flexibility markets provide enables the modern **modified free enterprise economy** to better deal with the unforeseen events of the future.

Chapter 20 Assessment and Activities

ECONOMICS Online

Self-Check Quiz Visit the *Economics: Principles and Practices* Web site at epp.glencoe.com and click on ***Chapter 20—Self-Check Quizzes*** to prepare for the chapter test.

CLICK HERE

Identifying Key Terms

Write the term that best completes the following sentences.

a. **pollution permits**
b. **biomass**
c. **modified free enterprise economy**
d. **glut**
e. **acid rain**
f. **pollution**
g. **aquifer**
h. **embargo**
i. **gasohol**
j. **subsistence**

1. The state in which the population produces barely enough to support itself is _____ .
2. The United States has a(n) _____ , a system that has been altered by its people to satisfy economic goals.
3. A restriction on the export or import of a commodity in trade is a(n) _____ .
4. _____ is a mixture of 90 percent unleaded gasoline and 10 percent grain alcohol.
5. An underground water-bearing rock formation is a(n) _____ .
6. The second largest source of renewable energy is _____ .

Reviewing the Facts

Section 1 (pages 545–550)

1. **Describe** why, despite Malthus's predictions, certain parts of the world have enjoyed steadily increasing standards of living.
2. **Explain** where the most rapid rates of population growth are found.
3. **List** the four major nonrenewable energy resources.
4. **Describe** the major drawback of nuclear energy.

Section 2 (pages 552–556)

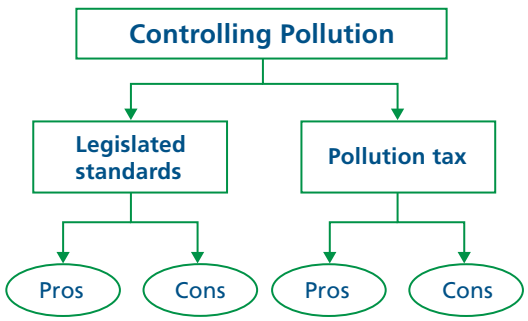
5. **Explain** how American consumers and the automobile industry reacted to the oil price increases of the 1970s.
6. **Explain** how the reluctance of oil and gas producers to drill for shallow gas was consistent with the law of supply.
7. **Describe** what the EPA hopes to accomplish by issuing pollution permits.
8. **State** how the price system in a market economy helps ensure that resources are used wisely.

Section 3 (pages 558–561)

9. **List** the steps involved in economic decision making.
10. **State** the importance of cost-benefit analysis.
11. **Explain** why adapting to change is important for an economic system.

Thinking Critically

1. **Making Comparisons** If you had to decide to use legislated standards or a pollution tax to reduce pollution, which would you choose? In your reasoning, explain the pros and cons of each approach. Use a graphic organizer similar to the one below to organize your answer.



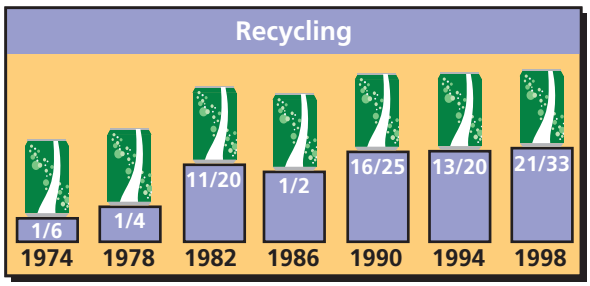
2. **Making Predictions** In what ways can Americans ensure the wise use of resources? How might the world be different in 50 years if we do not use resources wisely today?

Applying Economic Concepts

1. **Scarcity** Scarce natural resources are a problem that concerns citizens throughout the world. What can you personally do to help conserve resources?
2. **Modified Free Enterprise Economy** The United States has a modified free enterprise economy in which the government regulates some industries. Do you think the government should play a smaller or larger role in regulating the American economy? Give reasons to support your answer.

Math Practice

Many people all over the world recycle their aluminum cans in order to help our environment. The graph below shows the percentage of aluminum cans that have been recycled over the years. Study the information presented in the graph, then answer the questions.



Source: The Aluminum Association, Inc.

1. During which year was the largest percentage of aluminum cans recycled?
2. In 1974, 2.3 billion cans were recycled. Write a formula to show the total number of cans consumed during that year.

Thinking Like an Economist

Renewable energy resources only account for a small portion of our total energy production. Explain the changes that would have to take place in order for people to make greater use of renewable energy resources.

Technology Skill

Using a Database Create a database on recycling centers in your community. Look in the telephone book to locate the nearest recycling centers. Find out the name, address, phone number, and operation hours of each service, and what services each provides. Use this information to create a database, making separate fields for the materials, the locations, and the rebates paid for recycled items. Print and distribute your database to the rest of the class.

Building Skills

Making Predictions The table below depicts the median inflation rate for advanced economies, developing countries, and countries in transition for selected years. Study the table, then answer the questions that follow.

	1997	1998	1999	1980–89	1990–99
Countries in Transition	14.8	11.0	7.7	1.2	165.6
Developing Countries	5.6	4.8	4.1	9.9	8.4
Advanced Economies	1.7	2.1	2.1	6.9	2.8

Source: *World Economic Outlook*

1. Which economies do you predict to maintain a relatively low rate of inflation? Why do you think this is the case?
2. If trends continue, do you project the median inflation rate for developing countries to rise, decrease, or stay at about the same level? Why?

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

CONTENTS

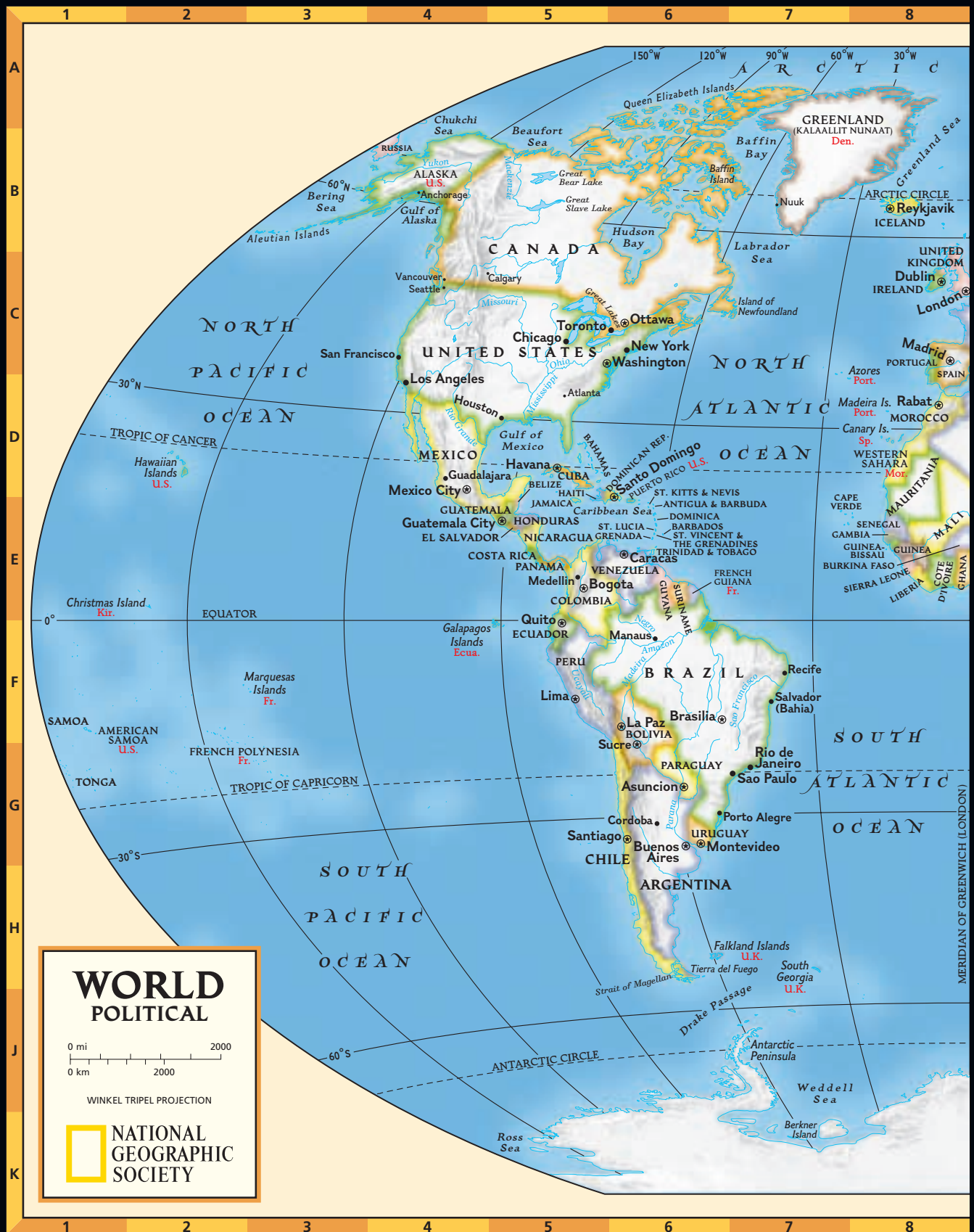
Reference Atlas

NATIONAL GEOGRAPHIC SOCIETY

ATLAS KEY

SYMBOL KEY

- Canal
- Claimed Boundary
- International Boundary
- Depression
- Elevation
- National Capital
- Towns
- Below Sea Level
- Dry Salt Lake
- Lake
- Rivers
- Lava
- Sand
- Swamp


WORLD
POLITICAL
0 mi 2000
0 km 2000
WINKEL TRIPEL PROJECTION
NATIONAL GEOGRAPHIC SOCIETY
ARCTIC OCEAN
NORTH PACIFIC OCEAN
SOUTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
SOUTH ATLANTIC OCEAN
CANADA
UNITED STATES
MEXICO
BRAZIL
ARGENTINA
CHILE
GREENLAND (KALAALLIT NUNAAT) Den.
ALASKA U.S.
RUSSIA
ICELAND
UNITED KINGDOM
IRELAND
PORTUGAL
SPAIN
MOROCCO
WESTERN SAHARA Mor.
MAURITANIA
MALI
SENEGAL
GAMBIA
GUINEA-BISSAU
GUINEA
BURKINA FASO
SIERRA LEONE
LIBERIA
COTE D'IVOIRE
GHANA
CAPE VERDE
Azores Port.
Madeira Is. Port.
Canary Is. Sp.
Hawaiian Islands U.S.
Christmas Island Kir.
Galapagos Islands Ecua.
Marquesas Islands Fr.
SAMOA
AMERICAN SAMOA U.S.
FRENCH POLYNESIA Fr.
TONGA
FRENCH GUIANA Fr.
Falkland Islands U.K.
South Georgia U.K.
Aleutian Islands
Queen Elizabeth Islands
Baffin Bay
Greenland Sea
Labrador Sea
Hudson Bay
Beaufort Sea
Chukchi Sea
Bering Sea
Gulf of Alaska
Great Bear Lake
Great Slave Lake
Baffin Island
Island of Newfoundland
Great Lakes
Gulf of Mexico
Caribbean Sea
Drake Passage
Strait of Magellan
Tierra del Fuego
Antarctic Peninsula
Weddell Sea
Ross Sea
Berkner Island
Yukon
Mackenzie
Missouri
Ohio
Mississippi
Rio Grande
Negro
Madeira
Amazon
Purus
Sao Francisco
Parana
Coppell
150°W
120°W
90°W
60°W
30°W
60°N
30°N
0°
30°S
60°S
TROPIC OF CANCER
EQUATOR
TROPIC OF CAPRICORN
ANTARCTIC CIRCLE
ARCTIC CIRCLE
MERIDIAN OF GREENWICH (LONDON)
Nuuk
Reykjavik
Dublin
London
Madrid
Rabat
Ottawa
Toronto
Chicago
New York
Washington
San Francisco
Los Angeles
Vancouver
Seattle
Calgary
Houston
Atlanta
Havana
Guadalajara
Mexico City
Guatemala City
Santo Domingo
DOMINICAN REP.
PUERTO RICO U.S.
BAHAMAS
CUBA
HAITI
JAMAICA
BELIZE
GUATEMALA
HONDURAS
EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA
ST. KITTS & NEVIS
ANTIGUA & BARBUDA
DOMINICA
BARBADOS
ST. LUCIA
GRENADA
ST. VINCENT & THE GRENADINES
TRINIDAD & TOBAGO
Caracas
VENEZUELA
Medellin
Bogota
COLOMBIA
GUYANA
SURINAME
Quito
ECUADOR
Manaus
PERU
Lima
Recife
Salvador (Bahia)
Brasilia
La Paz
BOLIVIA
Sucre
PARAGUAY
Asuncion
Rio de Janeiro
Sao Paulo
Cordoba
Porto Alegre
URUGUAY
Montevideo
Santiago
Buenos Aires

CONTENTS

ABBREVIATIONS

AUST.	AUSTRIA
B.&H.	BOSNIA & HERZEGOVINA
BELG.	BELGIUM
CROAT.	CROATIA
CZECH REP.	CZECH REPUBLIC
DEM. REP. OF THE CONGO	DEMOCRATIC REPUBLIC OF THE CONGO
EQ. GUINEA	EQUATORIAL GUINEA
EST.	ESTONIA
HUNG.	HUNGARY
LITH.	LITHUANIA
MACED.	MACEDONIA
MOLD.	MOLDOVA
NETH.	NETHERLANDS
SLOV.	SLOVENIA
SWITZ.	SWITZERLAND
U.A.E.	UNITED ARAB EMIRATES
YUG.	YUGOSLAVIA


RUSSIA
St. Lawrence Island
Bering Strait
Point Barrow
ARCTIC OCEAN
Seward Peninsula
Norton Sound
Brooks Range
Beaufort Sea
Yukon
Nunivak Island
ALASKA
Fairbanks
Aleutian Islands
Alaska Range
Bristol Bay
Anchorage
Alaska Peninsula
Kodiak I.
Gulf of Alaska
Juneau
Alexander Archipelago
PACIFIC OCEAN
Tacoma
Seattle
Olympia
WASH.
Spokane
Portland
Salem
Eugene
Cascade Range
OREGON
Snake
IDAHO
Butte
Boise
Great Salt Lake
Reno
Salt Lake City
Carson City
Sacramento
San Francisco
CALIFORNIA
NEVADA
UTAH
Sierra Nevada
Las Vegas
ARIZONA
Los Angeles
San Diego
Phoenix
Tucson
Honolulu
HAWAII
Hilo
TROPIC OF CANCER
180°
170°E
170°W
160°W
150°W
140°W
70°N
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50°N
40°N
30°N
20°N
10°N
150°W
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130°W
120°W
110°W
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UNITED STATES
POLITICAL
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OBLIQUE AZIMUTHAL EQUIDISTANT PROJECTION
NATIONAL GEOGRAPHIC SOCIETY
GREENLAND (KALAALLIT NUNAAT)
Den.
ARCTIC CIRCLE
C A N A D A
MEXICO
Gulf of Mexico
Caribbean Sea
ATLANTIC OCEAN
Bermuda Is. U.K.
CUBA
BAHAMAS
HAITI
DOMINICAN REPUBLIC
PUERTO RICO U.S.
JAMAICA
ANTIGUA & BARBUDA
ST. KITTS & NEVIS
DOMINICA
MONTANA
NORTH DAKOTA
SOUTH DAKOTA
MINNESOTA
WISCONSIN
MICHIGAN
WYOMING
NEBRASKA
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MISSOURI
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TENNESSEE
ARKANSAS
OKLAHOMA
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TEXAS
LOUISIANA
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ALABAMA
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FLORIDA
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NORTH CAROLINA
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W. VA.
PA.
N.Y.
MAINE
VT.
N.H.
MASS.
R.I.
CONN.
N.J.
DEL.
MD.
D.C.
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Missouri R.
Mississippi R.
Arkansas R.
Rio Grande
Straits of Florida
Helena
Billings
Bismarck
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Jefferson City
St. Louis
Louisville
Frankfort
Virginia Beach
Raleigh
Santa Fe
Albuquerque
Tulsa
Oklahoma City
Nashville
Memphis
Charlotte
Columbia
Little Rock
Atlanta
Charleston
Birmingham
Savannah
Fort Worth
Dallas
Montgomery
Jackson
Jacksonville
El Paso
Austin
Baton Rouge
Tallahassee
New Orleans
San Antonio
Houston
Tampa
Miami
Portland
Augusta
Montpelier
Concord, N.H.
Boston
Providence
Hartford
New York
Trenton, N.J.
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LAND USE
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WINKEL TRIPEL PROJECTION
NATIONAL GEOGRAPHIC SOCIETY
Forestry
Agriculture
Subsistence agriculture
Stock raising on ranch
Nomadic herding
Hunting
Manufacturing
Fishing
Little or no economic activity
Largest urban areas
Tokyo (selected urban areas are named)
NORTH AMERICA
SOUTH AMERICA
NORTH PACIFIC OCEAN
SOUTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
SOUTH ATLANTIC OCEAN
ARCTIC OCEAN
Chukchi Sea
Beaufort Sea
Bering Sea
Baffin Bay
Greenland Sea
Great Bear Lake
Great Slave Lake
Hudson Bay
Labrador Sea
Lake Winnipeg
Great Lakes
Great Salt Lake
New York
Los Angeles
Gulf of Mexico
Mexico City
Caribbean Sea
Rio de Janeiro
Sao Paulo
Buenos Aires
Scotia Sea
Bellingshausen Sea
Weddell Sea
Ross Sea
London
Pari
150°W
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0° EQUATOR
30°S
60°S
TROPIC OF CANCER
TROPIC OF CAPRICORN
ARCTIC CIRCLE
ANTARCTIC CIRCLE
MERIDIAN OF GREENWICH (LONDON)


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30°E
60°E
90°E
120°E
150°E
ARCTIC OCEAN
Kara Sea
Laptev Sea
East Siberian Sea
Norwegian Sea
Barents Sea
60°N
Bering Sea
Sea of Okhotsk
North Sea
Baltic Sea
Moscow
EUROPE
Lake Baikal
ASIA
Caspian Sea
Aral Sea
Black Sea
Sea of Japan
Seoul
Yellow Sea
Tokyo
Mediterranean Sea
Cairo
Shanghai
East China Sea
NORTH PACIFIC OCEAN
30°N
TROPIC OF CANCER
Red Sea
Mumbai
Arabian Sea
Calcutta
Bay of Bengal
Andaman Sea
Philippine Sea
South China Sea
Gulf of Aden
AFRICA
Lagos
Gulf of Guinea
EQUATOR
0°
Lake Victoria
Kinshasa
Lake Tanganyika
Arafura Sea
Coral Sea
INDIAN OCEAN
TROPIC OF CAPRICORN
AUSTRALIA
SOUTH PACIFIC OCEAN
Sydney
Tasman Sea
60°S
ANTARCTICA
Ross Sea

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OREGON
CALIFORNIA
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NEVADA
MONTANA
WYOMING
UTAH
COLORADO
ARIZONA
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MEXICO
PACIFIC OCEAN
Seattle
Olympia
Tacoma
Spokane
Portland
Salem
Eugene
Boise
Helena
Bismarck
Pierre
Sioux Falls
Reno
Carson City
Salt Lake City
Cheyenne
Lincoln
Sacramento
San Francisco
Oakland
San Jose
Denver
Colorado Springs
Fresno
Las Vegas
Bakersfield
Wichita
Los Angeles
San Bernardino
San Diego
Santa Fe
Albuquerque
Amarillo
Oklahoma City
Phoenix
Tempe
Tucson
Lubbock
Dallas
Fort Worth
Abilene
El Paso
Waco
Austin
San Antonio
Corpus Christi
Laredo
Columbia
Snake
Missouri
N. Platte
Arkansas
Red
Brazos
Colorado
Rio Grande
ARCTIC OCEAN
Beaufort Sea
Chukchi Sea
RUSSIA
Bering Strait
ARCTIC CIRCLE
Yukon
ALASKA
Anchorage
Bering Sea
Bristol Bay
Gulf of Alaska
Juneau
Forestry
Agriculture
Forestry and Agriculture
Stock raising on ranch
Wetlands
Urban land
Fishing
Tundra
Little or no economic activity

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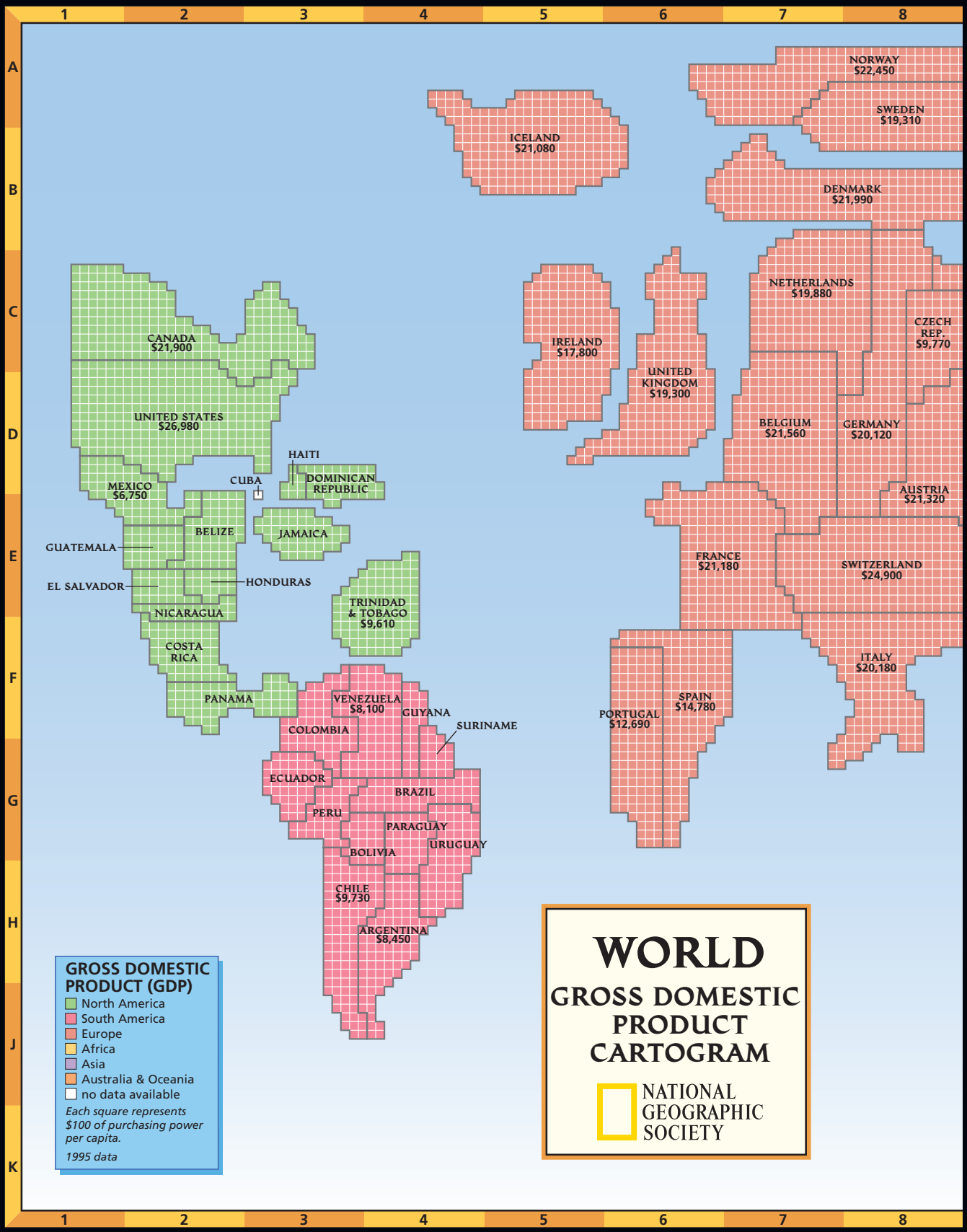
UNITED STATES
LAND USE
0 mi 300
0 km 300
ALBERS CONIC EQUAL-AREA PROJECTION
NATIONAL GEOGRAPHIC SOCIETY
PRINCIPAL HAWAIIAN ISLANDS
0 mi 100
0 km 100
Kauai
Niihau
Oahu
Honolulu
Molokai
Maui
Lanai
Kahoolawe
Hawaii
PACIFIC OCEAN
TROPIC OF CANCER
Gulf of Mexico
ATLANTIC OCEAN
CUBA
MINNESOTA
WISCONSIN
MICHIGAN
IOWA
ILLINOIS
INDIANA
OHIO
PENNSYLVANIA
NEW YORK
MAINE
VT.
N.H.
MASS.
RHODE ISLAND
CONN.
N.J.
MARYLAND
DELAWARE
D.C.
WEST VIRGINIA
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
FLORIDA
KENTUCKY
TENNESSEE
MISSOURI
ARKANSAS
LOUISIANA
MISSISSIPPI
ALABAMA
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Mississippi
Ohio
Tennessee
Red
Savannah
Minneapolis
St. Paul
Milwaukee
Madison
Grand Rapids
Lansing
Detroit
Chicago
Gary
Fort Wayne
Toledo
Cleveland
Akron
Buffalo
Rochester
Syracuse
Albany
Erie
Pittsburgh
Harrisburg
Philadelphia
Trenton
Newark
New York
Bridgeport
Hartford
Providence
Boston
Concord
Montpelier
Augusta
Baltimore
Dover
Annapolis
Washington
Richmond
Norfolk
Newport News
Virginia Beach
Raleigh
Charlotte
Columbia
Atlanta
Savannah
Jacksonville
Orlando
Tampa
St. Petersburg
Fort Lauderdale
Miami
Tallahassee
Mobile
Birmingham
Montgomery
Huntsville
Chattanooga
Knoxville
Nashville
Memphis
Louisville
Frankfort
Evansville
Indianapolis
Cincinnati
Dayton
Columbus
Charleston
Springfield
Omaha
Des Moines
Cedar Rapids
Kansas City
Topeka
Jefferson City
St. Louis
Springfield
Tulsa
Little Rock
Jackson
Shreveport
Baton Rouge
New Orleans
Beaumont
Houston
90°W
80°W
70°W
50°N
40°N
30°N
20°N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NORWAY
$22,450
SWEDEN
$19,310
ICELAND
$21,080
DENMARK
$21,990
NETHERLANDS
$19,880
CZECH REP.
$9,770
IRELAND
$17,800
UNITED KINGDOM
$19,300
BELGIUM
$21,560
GERMANY
$20,120
AUSTRIA
$21,320
CANADA
$21,900
UNITED STATES
$26,980
HAITI
DOMINICAN REPUBLIC
CUBA
MEXICO
$6,750
BELIZE
JAMAICA
GUATEMALA
EL SALVADOR
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
TRINIDAD & TOBAGO
$9,610
FRANCE
$21,180
SWITZERLAND
$24,900
ITALY
$20,180
SPAIN
$14,780
PORTUGAL
$12,690
VENEZUELA
$8,100
GUYANA
SURINAME
COLOMBIA
ECUADOR
BRAZIL
PERU
PARAGUAY
URUGUAY
BOLIVIA
CHILE
$9,730
ARGENTINA
$8,450
GROSS DOMESTIC PRODUCT (GDP)
North America
South America
Europe
Africa
Asia
Australia & Oceania
no data available
Each square represents $100 of purchasing power per capita.
1995 data
WORLD
GROSS DOMESTIC PRODUCT CARTOGRAM
NATIONAL GEOGRAPHIC SOCIETY

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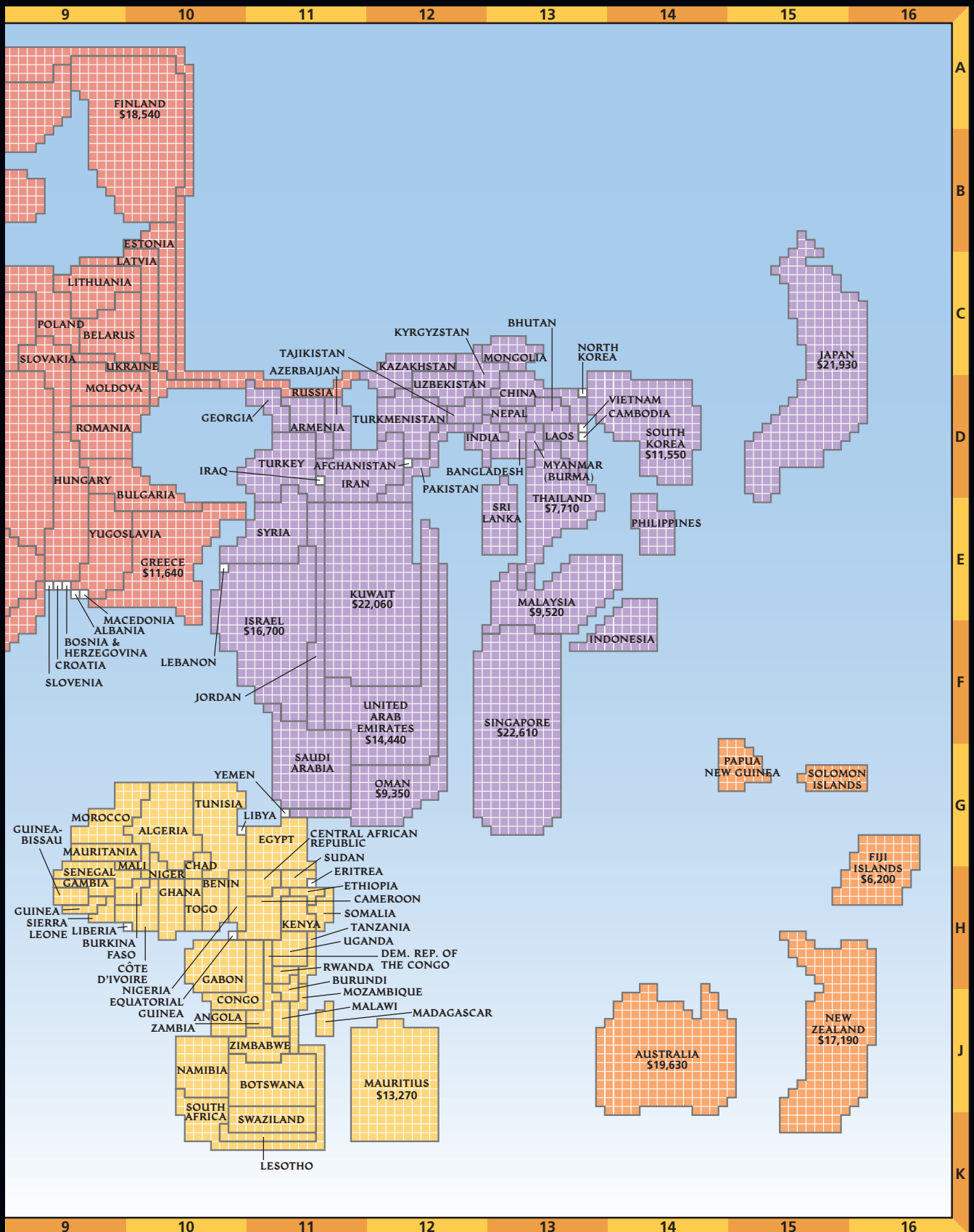
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ESTONIA
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POLAND
BELARUS
SLOVAKIA
UKRAINE
MOLDOVA
ROMANIA
HUNGARY
BULGARIA
YUGOSLAVIA
GREECE $11,640
MACEDONIA
ALBANIA
BOSNIA & HERZEGOVINA
CROATIA
SLOVENIA
LEBANON
SYRIA
ISRAEL $16,700
JORDAN
KUWAIT $22,060
SAUDI ARABIA
UNITED ARAB EMIRATES $14,440
OMAN $9,350
YEMEN
IRAQ
IRAN
TURKEY
AFGHANISTAN
PAKISTAN
GEORGIA
ARMENIA
AZERBAIJAN
TAJIKISTAN
KYRGYZSTAN
KAZAKHSTAN
UZBEKISTAN
TURKMENISTAN
RUSSIA
MONGOLIA
BHUTAN
NORTH KOREA
CHINA
NEPAL
INDIA
BANGLADESH
SRI LANKA
MYANMAR (BURMA)
LAOS
VIETNAM
CAMBODIA
THAILAND $7,710
SOUTH KOREA $11,550
JAPAN $21,930
PHILIPPINES
MALAYSIA $9,520
INDONESIA
SINGAPORE $22,610
PAPUA NEW GUINEA
SOLOMON ISLANDS
FIJI ISLANDS $6,200
AUSTRALIA $19,630
NEW ZEALAND $17,190
MAURITIUS $13,270
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SENEGAL
GAMBIA
GHANA
BENIN
TOGO
GUINEA
SIERRA LEONE
LIBERIA
BURKINA FASO
CÔTE D'IVOIRE
NIGERIA
EQUATORIAL GUINEA
GABON
CONGO
ANGOLA
ZAMBIA
ZIMBABWE
NAMIBIA
BOTSWANA
SOUTH AFRICA
SWAZILAND
LESOTHO
CENTRAL AFRICAN REPUBLIC
SUDAN
ERITREA
ETHIOPIA
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UGANDA
DEM. REP. OF THE CONGO
RWANDA
BURUNDI
MOZAMBIQUE
MALAWI

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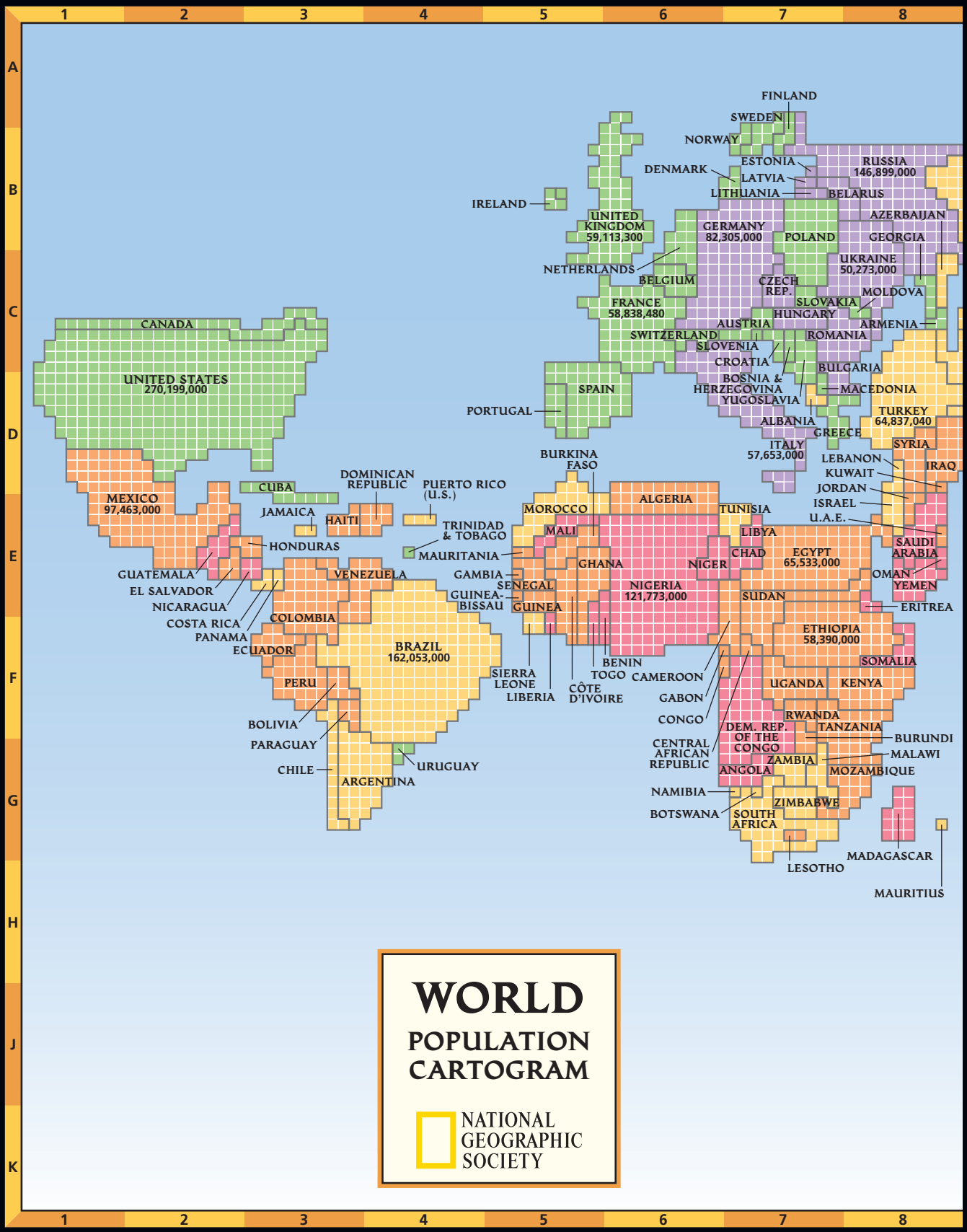
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DENMARK
IRELAND
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BELARUS
UNITED KINGDOM
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GERMANY
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POLAND
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GEORGIA
NETHERLANDS
BELGIUM
CZECH REP.
UKRAINE
50,273,000
MOLDOVA
FRANCE
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SLOVAKIA
HUNGARY
AUSTRIA
ARMENIA
SWITZERLAND
ROMANIA
SLOVENIA
CROATIA
BULGARIA
BOSNIA & HERZEGOVINA
YUGOSLAVIA
MACEDONIA
CANADA
UNITED STATES
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SPAIN
PORTUGAL
ALBANIA
GREECE
TURKEY
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ITALY
57,653,000
SYRIA
LEBANON
IRAQ
KUWAIT
JORDAN
ISRAEL
U.A.E.
BURKINA FASO
DOMINICAN REPUBLIC
PUERTO RICO (U.S.)
CUBA
MEXICO
97,463,000
JAMAICA
HAITI
MOROCCO
ALGERIA
TUNISIA
LIBYA
TRINIDAD & TOBAGO
MALI
SAUDI ARABIA
HONDURAS
MAURITANIA
CHAD
EGYPT
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NIGER
OMAN
VENEZUELA
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COLOMBIA
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PANAMA
ECUADOR
BRAZIL
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CAMEROON
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SIERRA LEONE
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MOZAMBIQUE
ARGENTINA
NAMIBIA
ZIMBABWE
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SOUTH KOREA
KAZAKHSTAN
KYRGYZSTAN
TAJIKISTAN
UZBEKISTAN
TURKMENISTAN
AFGHANISTAN
CHINA
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JAPAN
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IRAN
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NEPAL
PAKISTAN
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TAIWAN
VIETNAM
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MYANMAR
(BURMA)
BANGLADESH
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LAOS
THAILAND
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INDIA
988,708,000
CAMBODIA
PHILIPPINES
75,313,000
MALAYSIA
SINGAPORE
PAPUA
NEW GUINEA
I N D O N E S I A
207,379,000
SRI
LANKA
AUSTRALIA
NEW
ZEALAND
POPULATION
GROWTH RATE
(excluding effects
of migration)
3% and above
2-2.9%
1-1.9%
0-.9%
Population loss
Each square represents
one million people.
1998 data

CONTENTS

Planning Your Career

Whether you plan to attend college after high school or begin working immediately, now is a good time to start thinking about what you want to do when you finish your high school education.

Thinking About What You Want From a Career Choosing a career depends on many factors, including your interests and skills, your level of education and training, and the opportunities available. To help you think about what kind of career you would like to pursue, use this checklist to identify skills, weaknesses, and interests.

Self-Assessment Checklist

- What are my interests?
- What are my strengths?
- What are my goals?
- Do I like working with people, or do I prefer working alone?
- Do I like working in an office, or do I prefer working outdoors?

Researching Job Opportunities Once you identify your strengths, weaknesses, and interests, you will want to try to identify what kinds of jobs could make use of those interests and skills. Several sources can help you learn about different types of jobs. These government publications are particularly helpful:

- *The Occupational Outlook Handbook* provides detailed information on hundreds of occupations. Included are job duties, working conditions, levels and places of employment, education and training requirements, job trends, and average earnings.
- *The Dictionary of Occupational Titles* lists 20,000 different jobs and is a good source for finding out about jobs you never knew about. The *Dictionary* provides detailed explanations of job responsibilities, but it does not provide information on education or training requirements.
- *The Guide for Occupational Exploration* focuses on career interests and indicates the kinds of jobs that match different interests. It also offers guidelines on how to prepare for a career and find a job in a particular field.

Other good sources of information are schools and libraries, which often have career resource centers, and the Internet, which has many useful Web sites. Many schools also have computerized guidance programs that you can use to find out about different careers.

Finding a Job Once you have identified the kind of job you would like, you need to find out what opportunities are available in your community. You can find out about jobs by

- talking to people you know, including your guidance counselor.
- checking the classified ads in your local newspaper.
- contacting an employment agency.
- using the Internet.

Applying Life Skills

Identify three fields that interest you. Use resources available to you to learn as much as you can about jobs in these fields. In particular, find out what educational requirements are necessary, what the projected future demand for these jobs is, and what kind of salaries these jobs offer. Prepare a one-page report of your findings.

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Financing Your College Education

College costs have risen steadily in recent years. If you need financial aid, regardless of the reason, start researching for aid in your junior year or early in your senior year of high school. Check with your guidance counselor about federal aid and state, military, ethnic, and fraternal grants.

Financial Aid Financial aid comes in three basic forms: loans, which must be repaid; scholarships and grants, which need not be repaid; and jobs. Most financial-aid sponsors distribute their money through colleges. Therefore, contact the financial aid office of the college(s) of your choice. Because most colleges send out financial aid applications only upon request, you should obtain these forms early and then file them with your application for admission. Missing the appointed deadline will reduce your chances for aid.

Loans There are four major types of student loans.

1. The *National Direct Student Loan* is granted only to needy students. The funds come from the federal government, but individual colleges choose the students who receive them. The loan is interest-free while you are in school. After graduating, you have 10 years to repay the loan at low interest.
2. The *Government Guaranteed Student Loan* is made by financial institutions, and is guaranteed by the federal government to be repaid. While you are in school, the government pays the interest, which is generally 9 percent. After you graduate, you have 10 years to repay the loan.
3. A *bank loan* requires you or your parents to begin repayment while you are still in college. Although interest rates vary on this type of loan, they generally are higher than the rates on government loans.
4. A *special student loan* is one offered by colleges, civic and professional groups, and other organizations. The interest rates vary on these loans.

Scholarships and Grants Scholarships provide another source of financial aid and do not have to be repaid. In most cases, income plays no part in eligibility. Some available scholarships are *national, state, and college merit scholarships,* awarded on the basis of academic excellence, and *Reserve Officers' Training Corps scholarships,* awarded to students willing to spend four years in the armed forces after graduation. Grants also are available, but they generally are based on need. For those who qualify, *Pell Grants* can be used at any accredited college, vocational school, nursing school, and the like.

Work and Study The third basic kind of financial aid is in the form of a job. One is the *College Work-Study Program* sponsored by the federal government. To be eligible, you must be a full-time student who would not be able to afford school without the job.

If you are seeking financial aid for college, keep the following in mind:

- *Start your investigation early.*
- *Apply for every scholarship or grant for which you may qualify.*
- *You can borrow from more than one program.*

Applying Life Skills

1. If you need financial aid for college, when should you begin your search?
2. What are three forms of financial aid?
3. What kinds of scholarships are available?

Preparing a Resume

One of the most critical parts of finding a job is preparing a resume. A good resume provides a brief history of your accomplishments along with a description of your strengths and abilities. A prospective employer's decision to interview you often depends on his or her reaction to your resume.

Before You Begin Before writing your resume, conduct an inventory of your strengths and weaknesses by asking yourself questions such as:

- What kinds of skills and talents do I have?
- What is my work history?
- How much formal education have I had?
- What are my goals?
- What kind of work do I want?
- What salary would I be willing to accept?

Writing Your Resume When you have answered these questions, organize the entries on your resume.

- Begin with your name, address, and telephone number.
- Indicate the position or kind of position you are seeking.
- List all your relevant work experience, beginning with your most recent job. Include the dates of your employment, the names of the companies for which you have worked, and the positions you have held.
- List the schools you have attended. Include any special honors or awards you have received and any activities in which you have been or are involved.
- Provide at least three references, all of whom know you well enough to vouch for your abilities or strengths. Do not use relatives as references, and do not use more than two teachers.

Keep in mind that you may adjust the format of your resume to highlight the most relevant information.

Writing a Cover Letter When you send a resume, it should be accompanied by a cover letter. A cover letter identifies and explains anything you are sending to someone. It may be as short as two sentences or as long as several paragraphs. Follow these guidelines when you write your cover letter:

- State briefly what is enclosed, but include enough information to make the reader want to look at the attached resume.
- Mention why you are sending the resume.
- Indicate any response you are expecting or any future action you will be taking, such as a follow-up phone call.
- All cover letters should be typed on good quality paper.
- Address the person by name (instead of using "To Whom It May Concern").
- Sign each letter individually.

Applying Life Skills

Directions: View the Renssalaer Polytechnic Institute's *Preparing a Resume* Web page. Print a hard copy or read the article, and answer the following questions:

1. What is the purpose of a resume?
2. What are the steps in preparing a resume?
3. What type of information is included in a resume?
4. A cover letter should accompany the resume. Describe important items to include in this letter.

CONTENTS

Preparing a Budget

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Net Income												
Rent												
Auto												
Telephone												
Utilities												
Cable												
Food												
Clothing												
Entertainment												
Miscellaneous												

To increase your wealth, financial planners recommend that you control your expenditures to live within your means. You can accomplish this by making a **budget**–a plan that matches expenditures with income. Budgeting can help you manage your money better and prevent you from buying goods and services that you do not really need or cannot afford.

Organizing Your Information The first step in setting up a budget is to obtain a **spreadsheet**–a large sheet of paper with columns for weeks and months, and rows for different categories of expenditures. You can buy spreadsheets in an office supply store, make one of your own using pencil and paper, or use a computer software program designed for this purpose.

Next, decide whether you want to set up your budget on a weekly, monthly, or yearly basis. If you get paid every two weeks, you might want to set up an annual budget with 26 biweekly columns. If you get paid monthly, you might prefer to set up an annual budget with 12 monthly columns.

The first row of your budget should consist of the income you expect to have for each period. Be sure to record your **net income**–the income received after taxes have been taken out. The remainder of the rows should be used to list your expenditures.

List your monthly expenditures, such as rent and utility bills. Then list miscellaneous expenditures, such as clothing or gifts. Because you do not know how many unexpected expenditures you will have, allow 5 to 10 percent of your net income for this category. Keep in mind that it is more efficient and sometimes easier to spread larger expenditures across time.

Keeping Track Monitor your budget to make sure that the amounts you have allotted for each expenditure are reasonable. If you find that a category does not reflect your actual spending, adjust it. One benefit of a budget is that it can show you where you need to increase or decrease your spending.

Applying Life Skills

1. Why is making a budget important?
2. What are the steps involved in making a budget?
3. What does it mean to monitor a budget?