The past several decades have been a time of great cultural interaction. New systems of trade, transportation, and communication are bringing people into contact more than ever before. This contact is giving rise to a sense of global interdependence, as people around the world share goods, ideas, and customs. Examine the photograph of the world to the right and consider its implications as you answer the questions below.

1. What does this photo show?
2. What does the photo reveal about the modern era? Why?
3. How does the photo reinforce the idea of global interdependence?

For more information about global interdependence in the modern world . . .

CLASSZONE.COM
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>Helsinki Accords support human rights.</td>
</tr>
<tr>
<td>1986</td>
<td>Soviet Union launches Mir space station.</td>
</tr>
<tr>
<td>1992</td>
<td>Earth Summit held in Rio de Janeiro.</td>
</tr>
<tr>
<td>1994</td>
<td>NAFTA goes into effect.</td>
</tr>
<tr>
<td>1999</td>
<td>European Union launches common currency.</td>
</tr>
</tbody>
</table>
You are walking down a street of our nation’s capital on a cloudy summer day. All of a sudden, the sky gets very dark and within minutes a heavy rain begins pouring down. You run for the closest shelter and find yourself at an international newsstand. As you wait for the rain to let up, you scan the headlines of dozens of newspapers from all over the world. They all focus on different events.

What impact do events in different countries have on your life?

As a class, discuss these questions. Remember what you’ve learned about the recent history of nations in different regions of the world. Try to think of reasons why nations are becoming increasingly dependent on one another.

As you read this chapter, look for more examples of economic, political, and cultural interdependence among the nations of the world.
Science and Technology Shape Human Outlook

MAIN IDEA

Advances in technology after World War II led to increased global interaction and improved quality of life.

WHY IT MATTERS NOW

The lives of all people around the world are affected by advances in science and technology.

SETTING THE STAGE

Beginning in the late 1950s, the United States and the Soviet Union competed in the exploration of space. The Soviets launched Earth’s first artificial satellite, Sputnik I, and put the first human in orbit around the planet. By the late 1960s, however, the United States had surpassed the Soviets. U.S. astronauts landed on the moon in 1969. The heavy emphasis on science and technology spilled over into developing products that improved the ways of life of human beings across the globe.

Probing the Solar System and Beyond

The space race of the 1950s, 1960s, and early 1970s was intensely competitive. Both the United States and the Soviet Union competed to reach the moon and beyond. Both nations developed manned and unmanned space programs. Although the space race was competitive, it carried the seeds of global cooperation. Orbiting spacecraft beamed back images of a small blue planet, Earth, floating like a jewel in the black void of space. People around the world who saw this view of Earth received a stirring reminder that though they lived in different countries, they all shared the planet. Eventually, space exploration became one of the world’s first and most successful arenas for cooperation between U.S. and Soviet scientists.

Space Race Becomes Cooperative

In 1972, more than 15 years before the end of the Cold War, the United States and the Soviet Union signed an agreement. Their goal was to work toward docking Apollo and Soyuz spacecraft in space. Not only did the American and Soviet staffs have to work out engineering problems, they also had to learn each other’s language. On July 17, 1975, an American Apollo spacecraft docked with the Soviet Soyuz 19 spacecraft 140 miles above Earth. As the astronauts opened the hatch connecting the space vehicles, TV viewers across the globe watched the crews from Earth’s fiercest rival countries greet each other.

This first cooperative venture in space between the United States and the USSR was an isolated event. Over the next 15 years, American and Soviet space programs separately developed space shuttles. Unlike the Apollo spacecraft, these shuttles were reusable and could return to Earth under their own power. During the 1980s, shuttle missions put crews in orbit around Earth. The missions were designed to accomplish a variety of scientific and technological experiments. Colonel Frederick Gregory, a

TERMS & NAMES

- Hubble Space Telescope
- Internet
- genetic engineering
- cloning
- green revolution

Science and Technology Shape Human Outlook

Global Interdependence 941
A Spacelab 3 astronaut, observed, “I think that science is the stuff that pays for itself on these missions. It’s going to improve the quality of life down here [Earth].”

Beginning in the 1970s and increasing in the 1980s, people from different countries worked together to explore space. The Soviets were the first to send an international crew into space. In 1978, they invited Czech astronaut Vladimir Remek to orbit Earth in Soyuz 28. In the mid-1980s, the U.S. space agency invited people from Saudi Arabia, France, Germany, and Mexico to fly on the space shuttle.

Both the Soviets and the Americans had launched and lived in space stations since the early 1970s. Since 1986, the Soviet-launched Mir space station has been orbiting over 200 miles above Earth. In the mid-1990s, the Russians invited a number of U.S. astronauts to spend time on board Mir. Back on Earth, American and Russian scientists worked with scientists from 13 other nations to design and construct the first International Space Station.

Exploring the Universe  Helping to study planets of the solar system, unmanned space probes such as Voyager 2 sent dazzling pictures of Jupiter, Saturn, Uranus, and Neptune back to Earth. The Soviet Venera and Vega spacecraft and the U.S. Magellan spacecraft gathered in-depth information about Venus. In 1997, the U.S. space agency landed the Pathfinder probe on Mars. The public was fascinated with pictures sent back to Earth that included the activities of a mechanical rover named Sojourner.

In 1986, several nations, including Japan and the Soviet Union, sent spacecraft to study Halley’s Comet as it swung by Earth. The U.S. space agency, NASA, and the European space agency, ESA, worked together to make and launch the Hubble Space Telescope in 1990. This advanced tool is today observing objects in the most remote regions of the universe.

Space Goes Commercial  Meanwhile, private companies have become increasingly involved in space. One company has even contracted to take over much of the U.S. space shuttle program. Some companies launch rockets and satellites that help search for minerals and other resources on Earth. Satellites also follow the weather, aid long-distance learning programs, and even guide cars through cities. In the future, companies may use the zero-gravity environment of space to manufacture perfect crystals. They may eventually send solar collectors into orbit to help generate electricity for Earth. However, the most common commercial use of space today and in the near future will probably remain in the field of communications.

Expanding Global Communications  Since the 1960s, artificial satellites launched into orbit around Earth have aided worldwide communications. With satellite communication, the world was gradually transformed into a global village. Today, political and cultural events occurring in one part of the world often are witnessed live by people in other places. For example, in 1997, more than 2 billion television viewers across the world watched the funeral of Diana, the Princess of Wales. The linking of the globe through worldwide communications was made possible by the miniaturization of the computer.

Smaller, More Powerful Computers  In the 1940s, when computers first came into use, they took up a huge room. The computer required fans or an elaborate air-conditioning system to cool the vacuum tubes that powered its operations. In the years since then, however, the circuitry that runs the computer had been miniaturized and made more powerful. This was due in part to the space program, where
equipment had to be downsized to fit in tiny space capsules. Silicon chips replaced the bulky vacuum tubes used earlier. Smaller than contact lenses, silicon chips hold millions of microscopic circuits.

Following this development, industries began to use computers and silicon chips to run assembly lines. A variety of consumer products such as microwave ovens, telephones, keyboard instruments, and cars today use computers and chips. Personal computers have become essential in most offices, and millions of people around the globe use personal computers in their homes.

**Communications Networks** Starting in the 1990s, businesses and individuals began using the Internet. The Internet is the voluntary linkage of computer networks around the world. It began in the late 1960s as a method of linking scientists so they could exchange information about research. Through telephone-line links, business and personal computers can be hooked up with computer networks. These networks allow users to communicate with people across the nation and around the world. Between 1994 and mid-1999, the number of worldwide Internet users soared from 3 million to 200 million.

Conducting business on the Internet has become a way of life for many. The Internet, along with fax machines, transmits information electronically to remote locations. Both paved the way for home offices and “telecommuting.” Once again, as it has many times in the past, technology has changed how and where people work.

**Transforming Human Life**

Advances with computers and communications networks have transformed not only the ways people work but lifestyles as well. Technological progress in the sciences, medicine, and agriculture has changed the quality of the lives of millions of people.

**Health and Medicine** Before World War II, surgeons seldom performed operations on sensitive areas such as the eye, the inner ear, or the brain. Beginning in the 1950s, new technologies employed in advanced surgical techniques developed. More powerful microscopes and innovations such as the laser and ultrasound were among the improvements. For example, by the late 1970s, laser surgery to remove damaged lenses of the eye, such as lenses clouded with cataracts, was common. Such techniques made surgery safer and more accurate and improved patients’ chances for quick recovery.

Advances in medical imaging also helped to improve health care. The use of CAT scans and MRI techniques gave doctors three-dimensional views of different organs or regions of the body. Using CAT scans and MRIs, doctors diagnose injuries, detect tumors, or collect other information needed to identify medical conditions.

In the 1980s, genetics, the study of heredity through research on genes, became a fast-growing field of science. Found in the cells of all organisms, genes are hereditary units that cause specific traits, such as eye color, in every living organism. Technology allowed scientists to isolate and examine individual genes that are responsible for different traits. Through genetic engineering, scientists were able to introduce new
genomes into an organism to give that organism new traits. For example, with genetic engineering, scientists removed a gene from an Arctic fish and placed it in a plant. The resulting genetically engineered plant is better able to withstand frost.

Another aspect of genetic engineering is cloning, the creation of identical copies of DNA, the chemical chains of genes that determine heredity. Cloning actually allows scientists to reproduce both plants and animals that are identical to existing plants and animals. The applications of genetics research have led to many advances, especially in agriculture.

The Green Revolution In the 1950s, agricultural scientists around the world started a campaign known as the green revolution. It was an attempt to increase available food sources worldwide. Scientists promoted the use of fertilizers, pesticides, and high-yield, disease-resistant strains of a variety of crops. The green revolution helped avert famine in Asia and increased yields of crops in many different parts of the world.

However, the green revolution had its negative side, too. Fertilizers and pesticides are dangerous chemicals that cause cancer and pollute the environment. Also, the cost of the chemicals and the equipment to harvest more crops was far too expensive for an average peasant farmer. Consequently, owners of small farms received little benefit from the advances in agriculture. In some cases farmers were forced off the land by larger agricultural businesses.

Advances in genetics research have helped to fulfill some of the goals of the green revolution. In this new “gene revolution,” resistance to pests was bred into plant strains, reducing the need for pesticides. Plants bred to tolerate poor soil conditions also reduced the need for fertilizers. The gene revolution involved some risks, including the accidental creation of disease-causing organisms. However, the revolution also brought great promises for increasing food production in a world with an expanding population.

Science and technology has changed the lives of millions of people. In many cases quality of life has improved. What people produce and even their jobs have changed. These changes have altered the economies of nations. Not only have nations become linked through communications networks but they are also linked in a global economic network, as you will see in Section 2.

**The Human Genome Project**

Human genetic material (DNA) contains approximately 50,000 to 100,000 genes. Researchers established the Human Genome Project to map out the thousands of genes contained in DNA—a feat they achieved in 2000.

The information has led to the development of a new field of medicine called “molecular medicine.” This field focuses on how genetic diseases develop and progress. It has resulted in early detection of disease. Eventually, it may lead to individualized treatment based on a person’s genetic makeup.

Misuse of this information could drastically alter society. Therefore, a part of the project includes investigation of the ethical, legal, and social issues raised by genetic engineering.

**THINK THROUGH HISTORY**

C. Summarizing

What are some of the positive and negative effects of genetic engineering?

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**SPOTLIGHT ON**

**The Human Genome Project**

Human genetic material (DNA) contains approximately 50,000 to 100,000 genes. Researchers established the Human Genome Project to map out the thousands of genes contained in DNA—a feat they achieved in 2000.

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**TERMS & NAMES**

- Hubble Space Telescope
- Internet
- genetic engineering
- cloning
- green revolution

**TAKING NOTES**

Copy the chart below and fill in information on ways science and technology has changed human life.

<table>
<thead>
<tr>
<th>Science and Technology Changes Lives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
</tr>
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</table>

Which of the three areas do you think has had the greatest global effect?

**FORMING AND SUPPORTING OPINIONS**

What is your opinion about cloning? In your judgment, is there a limit to how far cloning should go? Support your opinion with reasons.

**THINK ABOUT**

- the Human Genome Project
- positive effects of cloning
- negative effects of cloning

**ANALYZING THEMES**

**Science and Technology**

Why do you think that space exploration became an arena for cooperation between the Soviet Union and the United States?

**THINK ABOUT**

- goals of space exploration
- technologies involved
- images of Earth from space
Global Economic Development

MAIN IDEA
The economies of the world’s nations are so tightly linked that the actions of one nation affect others.

WHY IT MATTERS NOW
Every individual is affected by the global economy and the environment.

SETTING THE STAGE At the end of World War II, much of Europe and Asia lay in ruins, with many of the major cities leveled by bombing. The devastation of the war was immense. However, within a decade, with U.S. aid, the economies of western European nations and Japan began expanding rapidly. Their growth continued for half a century, long after the United States ceased supplying aid.

Technology Revolutionizes the World’s Economy
Advances in technology caused economic growth in both Asia and the Western world. The explosion in scientific knowledge prompted great progress that quickly led to new industries. A prime example was plastics. In the 1950s, a process to develop plastics at low pressures and low temperatures was perfected. Within a few years, industries made toys, cooking utensils, containers, and a host of other products easily and cheaply out of plastics. The plastics industry boomed. Other technological advances have also changed industrial processes, lowered costs, and increased the quality or the speed of production. For example, robotic arms on automobile assembly lines made possible the fast and safe manufacture of high-quality cars.

Information Industries Change Economies Technological advances in manufacturing reduced the need for factory workers. But in other areas of the economy new demands were emerging. Computerization and communications advances changed the processing of information. By the 1980s, people could transmit information quickly and cheaply. Information industries such as financial services, insurance, market research, and communications services boomed. Those industries depended on what Professor Peter Drucker called “knowledge workers.”

 TERMS & NAMES
• developed nation
• developing nation
• global economy
• multinational corporation
• free trade
• Gulf War
• ozone layer
• sustainable development

Car production has changed a great deal since the production of pre–World War II cars. Today, car assembly plants using efficient robots have eliminated jobs once done by people.
A VOICE FROM THE PAST
By the end of this century knowledge workers [people whose jobs focus on working with information] will amount to a third or more of the work force in the United States. . . . The majority of knowledge workers will be paid at least as well as blue-collar workers ever were, or better. And the new jobs offer much greater opportunities. . . . The new jobs . . . require a habit of continuous learning.

PETER DRUCKER, Managing a Time of Great Change

The Effects of New Economies
In the postwar era the expansion of the world’s economies led to an increase in the production of goods and services so that many nations benefited. The economic base of some nations shifted. Manufacturing jobs began to move out of developed nations—those nations with the industrialization, transportation, and business facilities for advanced production of manufactured goods. The jobs moved to developing nations, that is, those in the process of becoming industrialized. Developing countries became prime locations for new manufacturing operations. Some economists believe these areas were chosen because they had many eager workers whose skills fit manufacturing-type jobs. Also, these workers would work for less money than those in developed nations. On the other hand, information industries that required better-educated workers multiplied in the economies of developed nations. The changes brought by technology changed the workplace of both developed and developing nations.

The Growth of Japan and the Pacific Rim
The Japanese began adopting modern technologies from Europe in the mid-1800s, during the Meiji era. After World War II, they continued to import and adapt the best of Western technology. For example, the Sony Corporation of Japan bought the rights to manufacture transistors, which are the basis for all electronic equipment, from an American company. Within 20 years, Sony had built a business empire based on the transistor. The company manufactured radios, stereo equipment, and televisions.

The emphasis that the Japanese and other people from Asia’s Pacific Rim have placed on education has made their work force knowledgeable, creative, and flexible. This helped the region enjoy amazing economic growth from the 1950s to the present. Japanese corporations produce high-quality cars, electronic goods, and ships. The success of Japanese corporations fueled the country’s high economic growth rate of 10 percent per year from 1955 through 1970. In the 1990s, averaging between 3 and 4 percent annually, Japan’s growth was above that of the United States.

Four places in the Pacific Rim—South Korea, Taiwan, Hong Kong, and Singapore—followed Japan’s example. In the 1970s, they set out on programs of rapid industrialization designed to make their economies both modern and prosperous. South Korea became a major exporter of automobiles and of electronic goods. Hong Kong became a world financial center. These four newly industrialized countries recorded such impressive economic growth that they became known as the Four Tigers of Asia. In the 1990s, rapidly industrializing China and Malaysia began competing with the other nations of the Pacific Rim. With Japan, the Four Tigers, China, and Malaysia, the Pacific Rim became a key arena of world trade.

Background
Pacific Rim refers to lands of Southeast Asian mainland and islands along the rim of the Pacific Ocean.

THINK THROUGH HISTORY
A. Recognizing Effects Why does Peter Drucker think education is the key to the future?

B. Analyzing Causes Why would the Four Tigers follow Japan’s example in developing their economies?

SKILLBUILDER: Interpreting Graphs
1. Which country showed the most dramatic growth in the period from 1985 to 1991?
2. Which countries in 1985 were at the level of South Korea in 1991?
Growth in World Trade

Economies in different parts of the world have been linked for centuries through trade and through national policies, such as colonialism. However, a true global economy didn’t take shape until the second half of the 1800s. The **global economy** includes all the financial interactions among people, businesses, and governments that cross international borders. In recent decades, several factors hastened growth in world trade. Huge cargo ships, the length of three football fields, could inexpensively carry enormous supplies of fuels and other goods from one part of the world to another. Telephone and computer linkages made global financial transactions quick and easy. In addition, multinational corporations developed around the world.

**Multinational Corporations** Companies that operate in a number of different countries are called **multinational corporations** or transnational corporations. U.S. companies such as Ford, IBM, and Exxon; European companies such as Nestlé and Volvo; and Japanese companies such as Honda and Mitsubishi all became multinational giants.

All of these companies have established manufacturing plants in many countries. They select spots where the raw materials or labor are cheapest. This enables them to produce components of their products on different continents. They ship the various components to another location to be assembled. This level of economic integration allows such companies to view the whole world as the market for their goods. Goods or services are distributed throughout the world as if there were no national boundaries.

**Expanding Free Trade** After World War II, many national leaders felt that economic cooperation among countries across the world would be key to peace and prosperity. The idea of **free trade**, which is the elimination of trade barriers such as tariffs among nations, began to gain acceptance. As early as 1947, nations began discussing ways to open trade. One such agreement was GATT—General Agreement on Tariffs and Trade. Over the years, a general lowering of protective tariffs and an expansion of free trade, region by region, has expanded the global marketplace. By 1995, the World Trade Organization was established to supervise free trade.

A European organization set up in 1951 promoted tariff-free trade among member countries. This experiment in economic cooperation was so successful that seven years later, a new organization, the European Economic Community (EEC), was formed. Over the next 40 years, most of the other Western European countries joined the organization, which now is called the European Union (EU). In another example of economic cooperation, 11 European nations began using a unified currency, known as the euro, on January 1, 1999.

**Regional Trade Blocs** Through this economic unification, Europe exerted a major force in the world economy. The economic success of the EU inspired countries in other regions to make trade agreements with each other. The North American Free Trade...
Agreement (NAFTA), put into effect in 1994, called for the rapid elimination of tariffs and trade restrictions among Canada, the United States, and Mexico. This trade-barrier-free zone may eventually extend into other parts of Latin America, which already has its own free trade association, LAFTA. Organizations in Asia, Africa, and the South Pacific are also creating regional trade policies.

Multinational corporations, freer world trade, and regional trading blocs today tie nations together economically. Instead of two nations trading with each other exclusively, trade links many nations. Resources, work forces, and financial support for business and trade come together from many areas of the world. Just how closely linked international economies are was demonstrated in late 1997. In October of that year, the dramatic fall of the Hong Kong stock market caused a ripple effect in markets in Asia, Europe, and North America. The losses were so severe that it would not be until 1999 that the struggling economies of Asia began to recover.

Challenges Facing Less-Developed Nations

Less-developed nations wanting to expand their economies face many challenges. Many people in the less-developed nations live in grinding poverty. On average, people in these nations receive only one-twentieth the income of people in the developed nations. They may lack adequate shelter, a source of clean drinking water, or food for nourishment. Diseases weaken many, and health care is often unavailable. Such poverty can lead to political instability, which affects not only the nation but also the rest of the world.
Many world leaders believe that the less-developed nations can ease the burden of poverty for their people only by economic development. Some economists have encouraged less-developed nations to assess their resources and to make long-term economic plans. Some also argue that developed nations need to assist the developing nations to climb out of poverty. A report issued by an international commission observed, “Peace, stability, and human justice around the globe depend on how well nations cooperate to help people in all lands share in the earth’s resources and wealth.”

Impacts of Economic Development

Global development has had a variety of effects, both positive and negative. It brought manufacturing jobs to developing nations. However, as industries moved out, it reduced manufacturing jobs and raised unemployment in developed nations. Global development had an even larger impact on the use of energy and other resources. Worldwide demand for these resources has led to both environmental and political problems.

Political Impacts

Manufacturing requires the processing of raw materials; trade requires the transport of finished goods. These activities, essential for development, require the use of much energy. For the past 50 years, one of the main sources of energy used by developed and developing nations has been oil. For nations with little of this resource available in their own land, disruption of the distribution of oil or a large price increase causes economic and political problems. Nations possessing oil reserves have the power to affect economic and political situations in countries all over the world. For example, OPEC declared an oil embargo—a ban on trade—in the 1970s. This caused significant economic decline in developed nations during that decade.

In 1990, Iraq invaded Kuwait and threatened to stop the distribution of Kuwaiti oil. Fears began to mount that Iraq would also invade Saudi Arabia, another major source of oil, and cut off petroleum supplies to the world. When an international economic embargo failed to change Iraq’s behavior, countries of the United Nations moved to wage war on Iraq. The war was known as the Persian Gulf War or Gulf War. The war served to point out how globally linked the economies of nations are.

Water is another important resource required for many manufacturing processes. It is also essential for agricultural irrigation. In many parts of the world, nations increasingly came into conflict over the use and maintenance of water resources. Poor quality water resources became one of many serious threats to the environment resulting from economic development.

Environmental Impacts

Economic development also threatens the environment. The burning of coal and oil as an energy source causes health-damaging air pollution and acid rain. It has led to global warming.

The release of chemicals called chlorofluorocarbons (CFCs), used in refrigerators, air conditioners, and manufacturing processes, has destroyed ozone in the earth’s upper atmosphere. The ozone layer is our main protection against the sun’s damaging ultraviolet rays. With the increase in ultraviolet radiation reaching the earth’s surface, the incidence of skin cancer continues to rise in many parts of the world. Increased ultraviolet radiation may damage populations of plants and plankton at the bases of the food chains, which sustain all life on Earth.
Economic development has also often involved the deterioration of the land. Large-scale soil erosion is a worldwide problem due to damaging farming techniques. The habitat destruction that comes from land development has also caused the shrinking of numbers of wildlife around the world. In the 1990s the extinction rate of plants and animals is at least a hundred times greater than it ever has been in earth’s history. This high extinction rate means that these animals can no longer serve as an economic resource. The loss of so many species also could endanger complex and life-sustaining processes that keep earth in balance.

"Sustainable Growth" Economists and scientists worked together to think of ways to reduce the negative effect development has on the environment. Their goal is to manage development so that growth can occur, but without destroying air, water and land resources. The concept is sometimes called “green growth.” Economist Frances Cairncross suggests that completely reducing negative effects on the environment will not happen.

A VOICE FROM THE PAST

Many people hope that economic growth can be made environmentally benign [harmless]. It never truly can. Most economic activity involves using up energy and raw materials; this, in turn, creates waste that the planet has to absorb. Green growth is therefore a chimera [impossible idea]. But greener growth is possible.

FRANCES CAIRNCROSS, Economic Growth and Sustainable Development

Economic development has frequently led to huge environmental damage. Because of this, people around the world have come together at Earth Summits to try to formulate plans for sustainable development. Sustainable development involves two goals: meeting current economic needs, while ensuring the preservation of the environment and the conservation of resources for future generations.

Making and putting into practice these plans has proved to be difficult. But meeting both goals is essential for the future of the human population on earth. Because economies of nations are tied to their political climates, such development plans will depend on the efforts of nations in both economic and political areas.
Economics and the Environment

Is it possible to have economic development while protecting the environment at the same time? To answer this question, the concept of “sustainable development” was created and discussed at Earth Summits. Using this concept, economic development and environmental protection both are considered in producing a long-term development plan for a nation. Sustainable development, though, often involves making difficult choices and trade-offs. And it often highlights differences between developing and developed nations.

**LETTER**

José A. Lutzenberger

In the following letter written in 1991, the Environmental Secretary of Brazil, José A. Lutzenberger, asks the President of the United States, George Bush, to stop the clear-cutting (removal of all trees in one tract of land at a time) of America’s ancient forest, saying it sets a bad example for the world.

**Dear Mr. President:**

... As an ecologist with a holistic view of the world, my concerns and the concerns of our Government go beyond Amazonia. So, we are also very much concerned with the fate of the last remaining old stands of temperate and boreal forests of North America in Alaska, British Columbia, Washington, Oregon and a few remains in California. . . .

At the present rate of clear-cutting practices for pulp and the export of logs, it will all be finished in about fifteen years. An irreparable loss for your country, a shame for Mankind and a very bad example for the Third World. How can we argue against the criminal devastation of tropical forests in Indochina, Malaysia, the Philippines, Indonesia, New Guinea and Africa, as well as here in South America? The powerful and rich U.S. can certainly afford to subsidize a few thousand jobs in a less destructive way.

**EDITORIAL**

Thomas L. Friedman

Thomas L. Friedman, a columnist, discusses the dilemma developing nations find themselves in when trying to consider both the economy and the environment.

Yes, the rich, developed northern nations, who’ve been polluting for years, have no right to lecture Indonesians, now that they’re trying to develop too. Still, it is hard not to feel a sense of tragedy in the making, and those Indonesians who have reached an income and education level where they can afford to think about the environment share this sense of being overwhelmed by global capitalism. For a developing country like Indonesia, plugging into the global market often means a brutal ultimatum: Jobs or trees? You can’t have both. This is globalization’s dark side.

**Drawing Conclusions**

What problems and tradeoffs do the demands of sustainable development create for developing nations and developed nations?

See Skillbuilder Handbook, page R17

**Researching**

Gather statistics on the ten fastest-growing national economies and the ten most environmentally degraded nations. Create a chart for each. Then, construct a third chart including information from both.

For another perspective on the environment, see World History: Electronic Library of Primary Sources.

Dear Mr. President: 

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Global Security Issues

**MAIN IDEA**
Since 1945, nations have used collective security efforts to solve problems.

**WHY IT MATTERS NOW**
Personal security of the people of the world is tied to security within and between nations.

**SETTING THE STAGE** World War II was one of history’s most devastating conflicts. More than 55 million people died as a direct result of bombings, the Holocaust, combat, starvation, and disease. Near the end of the war, one of humankind’s most destructive weapons, the atomic bomb, killed more than 100,000 people in Hiroshima and Nagasaki in a matter of minutes. Perhaps because of those horrors, since 1945, powerful nations have repeatedly stepped back from the brink of destruction that could result from another all-out world conflict.

**Nations Pursue Collective Security**
In the decades since the end of World War II, the number of limited wars throughout the world increased. Such wars potentially threatened the economic, environmental, and personal security of people in all nations. So nations began to work together to pursue collective security.

**Nations Unite and Take Action**
Many nations consider that having a strong army is important to their security. After World War II, nations banded together to make military alliances. They formed the North Atlantic Treaty Organization (NATO), the Southeast Asian Treaty Organization (SEATO), the Warsaw Pact, and others. The member nations of each of these alliances generally consider an attack on one of them to be an attack on them all. Thus, they each pledged military aid for their common defense.

In addition to military alliances to increase their security, world leaders have recognized that threats of war needed to be reduced. The United Nations (UN), an international agency established in 1945, works in a variety of ways toward increasing collective global security.

**Peacekeeping Activities**
More than 150 nations send representatives to the UN, which has as one of its aims to promote world peace. The UN provides a public forum, private meeting places, and skilled mediators to help nations try to resolve conflicts at any stage of their development.

The UN also provides peacekeeping soldiers at the invitation of the warring parties. These forces try to prevent the outbreak of new fighting or to help enforce a cease-fire. The unarmed or lightly armed soldiers fire their weapons only in self-defense. The presence of neutral UN soldiers helps prevent aggression. In the late 20th century, the UN sent successful peacekeeping forces to such places as El Salvador in Central America, Kuwait in the Middle East, and Namibia in Africa. The UN, however, was successful only when the nations involved in a conflict maintained a commitment to working things out peacefully.

**TERMS & NAMES**
- Nuclear Non-Proliferation Treaty
- proliferation
- terrorism
- fundamentalism
- Universal Declaration of Human Rights
- civil rights movement

**SPOTLIGHT ON**

UN Peacekeepers
Soldiers in blue helmets, such as the one pictured above, have been sent on peacekeeping missions all over the world. They come from dozens of different nations, from Finland to Senegal, from Canada to Pakistan. As neutral soldiers they are sent to enforce peace in troubled areas.

Some missions have lasted for decades, such as the 40-year UN mission to monitor the cease-fire agreement between India and Pakistan. Other UN missions are brief. The 1962–1963 UN mission to New Guinea lasted for six months.

Some UN missions are successful in their goal of preventing the continuation of conflict, but others fail. Both kinds of missions have proved costly. More than 1,450 peacekeepers have died in the line of duty.

Background
A limited war is one in which only a few nations are involved and nuclear weapons are not used.
Controlling Weapons of Mass Destruction  Nations have not only worked to prevent and contain conflicts, they also have forged treaties to limit the manufacturing, testing, and trade of weapons. The weapons of most concern are those that cause mass destruction. These include nuclear, chemical, and biological weapons that can kill thousands, even millions of people.

In 1968, many nations signed a Nuclear Non-Proliferation Treaty to help prevent the proliferation, or spread, of nuclear weapons to other nations. In the 1970s, the United States and Russia signed the Strategic Arms Limitation treaties. In the 1980s, both countries talked about deactivating some of their nuclear weapons. However, in the early 1990s, ten nations still possessed nuclear weapons. Many nations also signed treaties promising not to produce biological or chemical weapons.

Terrorism Threatens Security  On September 11, 2001, the United States faced its most direct threat from terrorist attack when 19 terrorists hijacked four commercial airplanes. Two planes struck the twin towers in the World Trade Center in New York City. The attack destroyed the towers and several other buildings, blanketed the lower section of Manhattan in ashes, and killed approximately 3,000 people. A third plane damaged the Pentagon and left about 200 dead. The fourth plane, presumed to be headed for another target in the nation’s capital, crashed into an empty Pennsylvania field.

This attack was the deadliest in a series of terrorist attacks that have claimed the lives of many innocent civilians over the past decade. In April 1995, an American opposed to the power of the U.S. government planted a bomb near the Murrah Federal Building in Oklahoma City, Oklahoma, killing more than 160 people. A month earlier, a Japanese cult member released nerve gas in a Tokyo subway, killing 12 people and injuring thousands.

These tragedies are examples of terrorism, the use of force or threats to frighten people or governments into changing their policies. Terrorism is a tactic used by ideological or political groups to call attention to their goals and to gain major media coverage. The global uses of modern technology and air travel make every nation vulnerable to attacks. Because terrorists cross national borders to escape to countries friendly to their cause, terrorism is an international problem. After the September 2001 attacks in New York City, the United States called for an international effort to combat terrorist groups.

Ethnic and Religious Conflicts Disrupt Peace  Conflicts among people of different racial, national, religious, linguistic, or cultural groups are not new. Some struggles have roots that reach back for decades and, in some cases, for centuries. Such conflicts include the clash between Protestants and Catholics in Ireland and between Palestinians and Jews in the Middle East.

Some ethnic conflicts have deep historical causes, such as the Serb-Bosnian-Croat disputes in former Yugoslavia. Once an authoritarian rule or colonial government is gone, these old problems flare into violent battles. Such conflicts often create thousands of refugees who seek shelter in nearby lands.

Religious Conflicts  The growth of fundamentalism—a strict belief in the basic truths and practice of a particular faith—also has contributed to conflicts, including acts of terrorism, among different peoples. In some cases, fundamentalist groups have gained control of a government and imposed their ideas on an entire nation. For example, in 1997, the Taliban movement in Afghanistan took control of that country after a long civil war. The leaders imposed their own strict Muslim law on the land.
Ethnic and religious conflicts have often been characterized by terrible violence. People caught in these conflicts sometimes suffered torture or massacres of their whole towns or villages. An example of this is violence imposed on the Kurds, a nomadic group in southwest Asia. (See spotlight on Kurds.)

As violence escalates, communication between the conflicting groups shuts down. The Buddhist leader of Tibet, the Dalai Lama, argued that opening communication is the key to understanding differences and resolving conflicts.

A VOICE FROM THE PAST

The various religions must recognize their common responsibility. Therefore it is important that they live together and speak to each other in harmony. Certainly there is a great deal of difference between the religions. But if people openly approach each other wishing sincerely to exchange views and learn from each other they will discover that they are in agreement on many things. A large common basis, I am sure, could be found. The religions could devote this basis to the service of the world’s positive development.

DALAI LAMA, quoted in Global Trends: The World Almanac of Development and Peace

While some have tried to find common ground through religion to ease conflict, others try to gain wide international guarantees of basic human rights.

Promoting Human Rights Worldwide

After the atrocities of the Holocaust in World War II, the newly formed United Nations resolved to work toward guaranteeing basic human rights for persons of all nations.

UN Issues a Declaration In 1948, to set human rights standards for all nations, the UN drew up and ratified the Universal Declaration of Human Rights. The declaration stated, “All human beings are born free and equal in dignity and rights. . . . Everyone has the right to life, liberty, and security of person.” It further listed specific rights that all human beings should have. Later, in 1975, the Helsinki Accords addressed the issues of freedom of movement and freedom to publish and exchange information.

Both the declaration and the accords are nonbinding. But many people around the world became committed to ensuring that basic human rights are respected. The UN and other international nonprofit agencies, such as Amnesty International, work to track and publicize human rights violations. They also encourage people to work toward a world in which liberty and justice are available for all.

The American Civil Rights Movement The people of the United States made greater commitments to ensuring basic human rights, especially political rights, to its citizens through the civil rights movement. The civil rights movement was a grassroots effort by African Americans to fight discrimination and to make sure all citizens received their rights guaranteed by the U.S. Constitution. During the 1960s, the movement focused on eliminating legal segregation between African Americans and whites. Another goal was to fully empower African Americans with the right to vote and with equal public education.

During the 1950s and 1960s, thousands of Americans, both African Americans and others, organized groups and worked to change the conditions in the United States. One of the best-known leaders of the civil rights movement was Dr. Martin Luther King, Jr. Dr. King patterned his movement after Gandhi’s in India, using nonviolent demonstrations to bring attention to serious injustices suffered by African Americans.
After King’s assassination in 1968, people of all races and creeds continued to work to eliminate discrimination in employment, housing, and other key areas of life. The civil rights movement fueled the development of other equal rights movements by Native Americans, Hispanics, women, and people with disabilities.

**Women’s Status Improves**

The women’s rights movement grew along with the civil rights movement in the late 1950s and early 1960s. When women in Western nations entered the work force, they often met with discrimination in employment and salary. In non-Western countries, many women not only faced discrimination in jobs, they were denied access to education. In regions torn by war or ethnic conflict, they were often victims of violence and abuse. As women suffered, so also did their family members, especially children.

However, in the 1970s, with a heightened awareness of human rights, women in various parts of the world worked to improve their lives through changes in laws and government policies. In 1975, the United Nations held the first of several international conferences on women’s status in the world. The fourth conference was held in Beijing, China, in 1995. It addressed such issues as preventing violence against women and empowering women to take leadership roles in politics and business.

One of the most highly respected activists who attended the Beijing conference was the Albanian missionary Mother Teresa. She devoted her life to caring for the poor and sick. In 1979, Mother Teresa was awarded the Nobel Peace Prize for her efforts on behalf of the homeless on the streets of Calcutta, India. Although she died in 1997, her mission continues to reach more than 25 countries worldwide.

**Global Movement of People**

Migration is a worldwide phenomenon that has increased in size and scope. Each year poverty, war, drought, famine, and political violence affect millions of people. To escape these life-threatening problems, many people leave their homes and migrate to other countries. Wealthy people sometimes migrate as well. In the late 1980s, some businesspeople left Hong Kong, fearing that after the Chinese regained control of the island from the British in 1997, their rights and opportunities would be limited.
Push-Pull Factors  Migration sometimes takes place because people feel pushed out of their homelands. Lack of food due to drought, natural disasters, and political oppression are examples of push factors. Between 1976 and 1996, the number of refugees—people who leave their country to move to another to find safety—grew from under 3 million to almost 20 million yearly.

Not only negative events push people to migrate. Most people have strong connections to their home countries and don’t leave unless strong positive attractions pull them away. They hope for a better life for themselves and for their children, and thus migrate to developed nations. For example, hundreds of thousands of people migrate from Africa to Europe and from Latin America to the United States every year. Sometimes the poorest people migrate, but often educated middle-class people migrate.

Effects of Immigration  Immigration has both negative and positive effects on the countries receiving new people. Countries generally receive two types of immigrants—political refugees and migrants who come for economic reasons. Although a person has the right to leave a country, the country receiving the migrant does not have to accept that person. The receiving country may have one policy about accepting refugees from political situations, and another about migrants coming for economic reasons. Although a person has the right to leave a country, the country receiving the migrant does not have to accept that person. The receiving country may have one policy about accepting refugees from political situations, and another about migrants coming for economic reasons. Because of the huge volume of people migrating from war-torn, famine-stricken, and politically unstable regions, millions of immigrants have no place to go.

Crowded into refugee camps under squalid conditions, immigrants face a very uncertain future. The cost of supporting these camps may cause political problems and may raise issues of prejudice and discrimination.

On the positive side, immigrants are often a valuable addition to the country where they move. They help offset labor shortages in a variety of industries. They bring experiences and knowledge that can spur the economy. In addition, they contribute to the sharing, shaping, and blending of a newly enriched culture.

Cuban boat people plead for help from a helicopter about 50 miles from Key West, Florida. Some left Cuba because of political differences, while others were looking for a better economic future.

Section Assessment

1. TERMS & NAMES
   Identify
   - Nuclear Non-Proliferation Treaty
   - proliferation
   - terrorism
   - fundamentalism
   - Universal Declaration of Human Rights
   - civil rights movement

2. TAKING NOTES
   Using a chart like the one below, list collective methods employed by the nations of the world to increase world security. Give examples.

<table>
<thead>
<tr>
<th>Method</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Form military alliances</td>
<td>NATO, SEATO,</td>
</tr>
<tr>
<td></td>
<td>Warsaw Pact</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

3. IDENTIFYING PROBLEMS
   How are ethnic and religious conflicts related to problems of global security?
   THINK ABOUT
   - current conflicts
   - political/ideological tactics of groups
   - immigration

4. ANALYZING THEMES
   Science and Technology  In what ways have advances in science and technology increased threats to global security?
   THINK ABOUT
   - the destructive capability of one nuclear weapon
   - the ability of less-powerful nations to produce biological or chemical weapons
   - the ability to move easily across international borders
Chapter 36 Assessment

TERMS & NAMES
Briefly explain the importance of each of the following to global interdependence from 1960 to the present.

1. genetic engineering
2. green revolution
3. global economy
4. free trade
5. Gulf War
6. sustainable development
7. terrorism
8. fundamentalism
9. civil rights movement
10. popular culture

REVIEW QUESTIONS
SECTION 1 (pages 941–944)
Science and Technology Shape Human Outlook
11. In what ways have science and technology changed the lives of people today?
12. What was the goal of the green revolution?

SECTION 2 (pages 945–950)
Global Economic Development
13. Explain the difference between a developed nation and a developing nation.
14. Who are the “Four Tigers,” and what is significant about their development as major trading nations?
15. Why was the World Trade Organization founded?

SECTION 3 (pages 952–956)
Global Security Issues
16. What methods has the world community used to resolve conflicts since World War II?
17. How have religious and ethnic conflicts threatened global security?
18. Describe worldwide efforts to guarantee basic human rights.

SECTION 4 (pages 957–961)
Cultures Blend in a Global Age
19. Which technologies have had the most powerful impact on cultural sharing?
20. What explains why Western influences have had a major impact all over the world?

Interact with History
After reading Chapter 36, do you believe events in other nations affect your life? Which kinds of events are more likely to affect you in a very personal way? Create a survey about global interdependence to ask students in your class or school. Consider asking questions about such things as clothing produced in places outside the United States, international phone calls, or travel to foreign countries.

Visual Summary
Global Interdependence

Science and Technology
- Space cooperation stretches horizons.
- Advanced communications allow wider contact.
- Inventions improve life and health.

Economics
- Service industries grow in developed nations.
- Free trade expands world markets.
- Environmental challenges continue.

Culture
- Mass media spreads many cultures.
- Pop culture becomes more international.
- Global interdependence awareness develops.

Politics
- Nations take collective security actions.
- Human rights improve worldwide.
- Immigrants change cultures.
1. **LIVING HISTORY: Unit Portfolio Project**

Your unit portfolio project focuses on how economic factors influence history. For Chapter 36, you might use one of the following ideas.

- Write a poem about the impact of a global economy on the environment.
- With a classmate create a map showing worldwide locations of manufacturing plants controlled by multinational corporations such as IBM, Ford, or Coca-Cola.
- Find out how the availability of jobs in developed and developing countries influences the migration of people. Construct graphs or charts to illustrate your findings.

2. **CONNECT TO TODAY: Cooperative Learning**

Science and technology continue to bring the world new ideas and inventions. These have resulted in greater global interaction and an improved quality of life.

Work with a team to create a 15-minute “special news segment” on the latest advances in science and technology and how they currently (or are expected to) affect everyday life.

Using the Internet, magazines, or a local museum, research current products, new technologies, and new ideas.

- Divide your group so that each of the following categories has a representative: correspondents, scientists, corporate or government executives.
- Videotape or present the segment in class.

3. **INTERPRETING A TIME LINE**

Revisit the unit time line on pages 850–851. Look at the section that relates to Chapter 36. What events have occurred since the development of this time line that you think should be included to bring it up to date? Explain why.

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**FOCUS ON GRAPHS**

Millions of people become refugees each year as the result of poverty, wars, political problems, and environmental disasters.

- Which area has had the largest increase in the number of refugees in the time period shown?
- In which years did Africa experience sharp increases in refugees?
- How many more total refugees were there in 1998 than in 1984?

**Connect to History**

In which year did Europe experience a dramatic increase in refugees? What effect might this have on the nations of Europe?