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at Work

TEACHER'S GUIDE

Economics at Work is a multimedia, contextual economics curriculum combining videodisc, video, print, and computer software into a comprehensive, one semester course designed around five major economic activities:

ECONOMICS® at Work

Economics at Work includes instructional modules, computer software, and a classroom utilization component.

The five instructional modules contain

- six Level I barcode-driven videodiscs
- five videocassettes (containing linear versions of the videodisc material)
- five annotated teacher's guides
- five ***Economics at Work*** student guides (sold separately)

The computer software and classroom utilization component consist of

- a set of Windows® and Macintosh® software diskettes
- one teacher training video program
- one workshop leader's handbook

TEACHER'S GUIDE

EXCHANGING

MODULE 2

AGENCY FOR INSTRUCTIONAL TECHNOLOGY

AGENCY FOR INSTRUCTIONAL TECHNOLOGY
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CONTENTS

Economic Literacy

We believe that every high school student in America should become economically literate and oriented to private enterprise. Students should understand and use economic ways of thinking and problem solving in order to live and work effectively as citizens in a changing world of commerce. Your use of Economics at Work *with your students will help us accomplish this important goal.*

—Robert F. Duvall
President and CEO
National Council on Economic Education

FOREWORD

ECONOMICS AT WORK: A NEW LEARNING EXPERIENCE FOR STUDENTS OF ECONOMICS

Economics is "a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions."

—John Maynard Keynes

I do not have faith in the market, I have evidence in the market.

—Thomas Sowell

WELCOME to *Economics at Work*. This curriculum should serve you well as your principal tool for teaching economics. It uses the latest instructional technology to prepare students to engage in the economic way of thinking, and it enables students to relate to economics by presenting the concepts and principles of this subject in workplace settings to which they can easily relate.

The economic way of thinking employs a relatively short list of concepts to bring order and understanding to the economic activities of producing, exchanging, consuming, saving, and investing. Students of economics—economists—know how these activities fit together.

These concepts allow us to make sense of economic activities, both as observers and as participants. They also allow us to appreciate the interdependence of economic activity—even if we never fully comprehend it. As a result, we are better prepared to understand that the economic policies we pursue, in an effort to manage pressing social problems, have consequences that are often far different from what we initially predict.

Because these concepts facilitate the understanding of economic activity and policy, it is appropriate to study them within the contexts in which they occur. This is precisely what *Economics at Work* does. Just as the need to know and understand basic economic concepts takes place in the context of the real world, so also students will learn and demonstrate their understanding of the concepts in a context to which they can relate and respond. For example, in the lesson "TicketMax," where students need to learn and understand transaction costs, they develop their understanding of such costs in the context of an actual market for concert and sports tickets.

Students' progress can be measured in many ways in *Economics at Work*. Besides the traditional questions and problems that appear in the printed guides, video-based assessment allows students to answer content questions by drawing on cues and prompts embedded in the video programs. While students should find the video interesting and enjoyable, these programs are far from mere entertainment. They are rigorous in the economics they dramatize, teach, and evaluate.

Videodisc technology not only provides support for the teacher in the form of an "assessment track," but it also provides a "teacher advisement track" that offers suggestions on how to present the material in the lessons as effectively as possible. Teachers may access the advisement component by swiping barcodes, which trigger content and pedagogy instruction that plays over the video students will see. This provides another dimension to the effective use of *Economics at Work*.

As you will see, *Economics at Work* is a complete instructional package, with many aids for teachers and students. But it is your human capital as an educator that is the critical input needed to generate the desired student outputs. I am sure you will find these materials an exciting and rewarding way to teach the concepts and principles of economics.

—DeVon L. Yoho, Ph.D.
Director, EconomicsAmerica

INTRODUCTION

ECONOMICS AT WORK

OVERVIEW AND RATIONALE

BEFORE long your students—the workers and employers of tomorrow—will be making decisions that are vital to the economic health of the nation. To decide wisely, they must have a sound foundation in the principles and concepts of economics, especially those affecting the free market and the workplace. *Economics at Work* is a new kind of resource—multimedia, interactive, and context-based—that will help you provide this essential foundation in economics.

Background

Since the publication of *A Nation at Risk* in 1983, several clear pointers have emerged to guide America's schools in preparing students for the 21st century. Two reports by the Secretary's Commission on Achieving Necessary Skills (SCANS) published in 1991 and 1992, combined with the school-to-work movement, have fueled the development of applied-academics curricula in science, mathematics, and English/communications. In spite of the growing recognition of the value of such curricula, however, no substantial applied-academics resources exist in social studies or business education.

This lack is especially surprising in the field of economics, which is naturally suited to an approach that applies concepts and principles to the problems and decisions of the workplace. As governments at all levels grapple increasingly with economic problems, students who will soon be workers need to be able to understand and discuss these complex issues. The "workplace know-how" advocated in the SCANS reports includes an understanding of economic forces that affect the workplace. Without this practical knowledge, employers and workers at all levels are likely to make poor workplace decisions based on faulty understanding of the principles of economics. As a result, their companies, their jobs, and ultimately their nation's prosperity may fall victim to economic ignorance.

Economics at Work

Exploiting the latest instructional technologies and methods, the Agency for Instructional Technology and the National Council on Economic Education have joined forces to develop a one-semester course that will help all secondary students apply economics to real-life experiences. The 27 lessons (20 of them centered around interactive video), the computer software, and the printed guides for students and teachers will provide your classes with a contextual foundation for the economics that you have been teaching. The materials are designed to support the five competencies and the foundation of skills laid out in the two SCANS reports. The software contains realistic problems involving economics in each of seven different career clusters.

The content of the lessons has been drawn from *A Framework for Teaching the Basic Concepts, with Scope and Sequence Guidelines* (1995), the National Council's Master Curriculum Guide in Economics. *Economics at Work* sets the principles and concepts of economics in an everyday or workplace context and challenges students to draw on a range of information, knowledge, and skills to solve problems, often in cooperation with one another. The curriculum offers you the materials and activities you need to meet the guidelines of these reports as well as the call for a school-to-work curriculum.

Education for Employment

The 1991 SCANS report, *What Work Requires of Schools*, spelled out the five "competencies" that workers need for success on the job. These competencies are listed below, together with a description of how *Economics at Work* addresses each of them. Effective workers can productively use:

- **Resources: allocating time, money, materials, space, staff**—The study of economics is the primary discipline for teaching students how to interpret, analyze, and solve problems involving the

management of time, money, human resources, and materials and facilities.

- **Interpersonal Skills: working on teams, teaching others, serving customers, and leading, negotiating, and working well with people from culturally diverse backgrounds**—Every module concludes with a substantive cooperative learning activity in which students are grouped according to their specific vocational interests and goals. Many of the activities suggested in the print also lend themselves to group work. In addition, many of the documentary and dramatic sequences highlight teams and groups working together to solve problems.
- **Information: acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information**—To solve the problems presented in the video segments and in their guides, students will need to evaluate, organize, interpret, and communicate data from a variety of sources. In the cooperative learning activities, they will also use computers to process information.
- **Systems: understanding social, organizational, and technological systems; monitoring and correcting performance; and designing or improving systems**—By studying the basic concepts in economics—producing, exchanging, consuming, saving, and investing—through examples from realistic business contexts, students will be introduced to the complexities of economic relationships in a market economy.
- **Technology: selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies**—*Economics at Work* is a multimedia curriculum, providing opportunities for students to work with and integrate material from print, video, and software sources. The documentary segments of both the video and print also present contemporary accounts of the effect of developing technologies on various businesses.

Economics at Work also addresses the three "foundation skills" cited in the SCANS report:

- **Basic skills**—reading, writing, arithmetic and mathematics, speaking, and listening
- **Thinking skills**—thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning
- **Personal qualities**—individual responsibility, self-esteem, sociability, self-management, and integrity

All lessons, both in their interactive video-based components and in the activities presented in the guides, require students to discuss, debate, and defend their decisions. They must also work with others to solve problems and to communicate their results, both orally and in writing.

In the second SCANS report, *Learning a Living: A Blueprint for High Performance* (1992), the commission addressed the changes and reforms that schools must make to implement the SCANS competencies and skills and to "bring all students to a level that, in the past, only a small minority reached." *Economics at Work* emphasizes contextual learning. The curriculum links abstract concepts with "real world" examples, and the challenging assessment suggestions require students to solve actual workplace problems. Field activities bring the community into the classroom and take students into the community, further supporting the recommendations of the report.

School to Work

School-to-work and applied-academics initiatives have flowered in response to the SCANS and other recent reports that have voiced concerns about students' lack of preparation for the workplace. Studies have found that the traditional classroom does not encourage the development of skills that students need to succeed in the workplace. Instruction has commonly been teacher-centered, with the instructor leading the group in practicing textbook problems and solutions. Drills, homework exercises, and tests measure students' achievement in recall and mental manipulation rather than in application or understanding.

Unfortunately, many students, especially those who learn abstract concepts in concrete ways, do not understand the relevance of such mental exercises to the real world. In *Economics at Work*, concepts are introduced not in a traditional linear sequence but rather in a context to which students can more easily relate; the context itself partly determines the concepts that are taught at that point in the lesson.

School-to-work transition programs help learners make the connection between school and employment. They seek to bridge the gap between what schools teach and what the workplace requires. This approach is based on a core of challenging courses in which traditional academic skills are taught by showing how those skills are used in a workplace setting. School-to-work programs prepare learners either for direct entry into the work force as technically skilled employees or for further education leading to advanced certification or academic degrees. School-to-work programs emphasize four key components:

- **Motivation**—Young people must be encouraged to stay in school and graduate.
- **Enablement**—Educators must enable learners to reach high academic achievement.
- **Linkage**—Classroom curricula must link school and work so that learners understand the importance of learning the skills they will need in the workplace.
- **Employment**—Education must lead to initial and continued employment.

In a general way, the entire *Economics at Work* curriculum, with its emphasis on contextual examples and actual workplace problems, supports these guidelines. More specifically, at the end of every module, an application lesson that is presented on computer software permits students to collaborate in applying economics concepts and reasoning strategies to problems set in their particular area of career interest.

This curriculum provides a choice of seven general career clusters. These clusters are categorized in ways that are aligned with—though not necessarily identical to—the career classification systems of most states. The seven areas are:

- agriculture/natural resources
- mechanics and transportation
- business and computer technologies
- health and human services
- engineering technologies
- construction and design
- communication technologies

Instructional Philosophy and Approach

Contextual Learning

The lessons in *Economics at Work* use videodisc technology to present economic issues in the context of actual workplace settings and documentary case studies. For every illustration, students are required to learn, elucidate, and apply basic concepts and principles, often by answering questions that ask them to consider the causes and the consequences of certain events. Interactive lessons within modules present economic problems arising from the challenges that workers face in real-life situations—for example, foreign exchange, transaction costs, and efficiency considerations at a Corvette plant, where many foreign-produced parts are used to manufacture a "domestic" car. Studies have shown that this approach, which asks students to solve actual workplace problems, has proven highly effective for learning outcomes.[1]

Authentic Instruction

Lesson design and student activities are driven by the five standards of authentic instruction described by Newman and Wehlage of the Center on Organization and Restructuring of Schools.[2] These standards are integrated into *Economics at Work* in the following ways.

- **Higher-order thinking**—The course requires students to manipulate economic information and concepts; generalize about events and their effects; speculate and hypothesize about causes and consequences; analyze, interpret, and explain complex workplace situations; and draw conclusions from observation and data.
- **Depth of knowledge**—The course is designed to permit sufficient time and background for students to analyze situations in depth, to make distinctions, to create arguments and construct explanations that support them, and to investigate and explain a variety of consequences.
- **Connectedness outside the classroom**—The illustrations connect economic principles and concepts with actual businesses, with real workers, and with the personal activities and experiences of students.
- **Substantive conversation ("talking to learn and understand the substance of a subject")**—The instructional materials are designed to include

opportunities for group interaction, sharing of experiences, and cooperative analysis and problem solving to reach a coherent and reasoned understanding and consensus.

- **Social support for achievement ("high expectations, respect, and inclusion of all students in the learning process")**—No single curriculum, by itself, can change a school's learning climate and culture; however, the teaching suggestions and inservice information on the videodiscs and in the annotated resource guides will help teachers to convey high expectations, to encourage risk taking, and to challenge students to improve. In addition, the teacher materials encourage interdisciplinary cooperation and promote staff collegiality. The student materials are user-friendly and inviting, but at the same time they require learners to grapple with sophisticated concepts and real problems. The materials are also designed to encourage pair and group activities that foster cooperative learning. Students receive ample opportunities to take pride in genuine achievement.

Cooperative Learning

Reflecting the modern workplace, many activities in the lessons encourage students to work together in pairs or small groups. Extension sections contain numerous optional activities for students who share an interest in the same career cluster (see page x).

In addition, the application activities in the seven software programs, which augment each of the five modules, permit students to select a challenging problem scenario related to the general career area they have chosen. Small groups of students who choose the same career area and program work together to solve the problem posed in the software. This cooperative learning project is designed to help all members of the group learn. By collaborating to attain a shared goal, students improve their social skills at the same time they acquire knowledge.

Limited English Proficiency

Economics at Work demands rigorous thinking on the part of students. The concepts taught in the course and the activities supporting the concepts are designed to stimulate and challenge all students, including those who are academically inclined. For these reasons, students with limited comprehension of English may require extra support and attention. Nevertheless, many features of the curriculum will help them, especially the 20 video programs, which dramatize economic events and the application of economic concepts, and the glossaries contained in the print and the software. Graphics and charts in the print and in the database on the videodiscs will also support their learning and help them understand the printed materials.

Encouraging Cooperative Learning in Your Classroom

IDEALLY, cooperative learning transforms the competitive instinct into teamwork. Much depends on teacher preparation, especially the adoption of effective grouping strategies and the avoidance of potential conflicts. Student choice, ability groups, peer tutorials, and career-interest teams may provide useful bases for grouping. To ensure that authentic collaboration is occurring, it is essential to monitor the interactions, especially in the early stages of group work. Without such monitoring, cooperative learning may fail either because one or more members "free ride" on the work of others, because cliques of students undermine others' cognitive efforts by rushing assignments to conclusion ("task gang-banging"), or because high-ability students lower their output in resistance to being "used" by less able peers.

The "group retest" technique has been shown to facilitate a cooperative social atmosphere. A teacher using *Economics at Work* may use this technique by first administering the assessments, which appear at the end of each lesson, to the class as individuals. Then the class may divide into small groups, which can attempt to answer the same questions cooperatively, discussing items, using appropriate resource materials, and developing and submitting a single answer sheet for the group. This technique may be especially fruitful when group members share a similar career interest. When the whole class gathers again, groups' answers can be discussed, and the next day their results can be posted.

Well-documented research manifests that cooperative activities of this kind enhance achievement, improve social skills, and ease the adjustment to workplace environments that demand collaborative skills.

Course Content and Organization

Course Objectives

Economics at Work is designed to help students achieve five goals:

- understand and interpret relatively commonplace economic events through the study and application of everyday economic concepts
- acquire critical-thinking and decision-making skills needed for workplace and career decision making
- comprehend the economic activities (producing, exchanging, consuming, saving, and investing) of individuals, companies, labor, and government, along with the interdependence of these entities
- understand the market system in a global economy
- comprehend the impact of economic events on careers, the workplace, and lifelong learning

Curriculum Materials

The multimedia curriculum makes use of these resources:

- 11 interactive **videodisc** sides (one to four sides per module); alternatively, five noninteractive **videotapes** can be substituted if videodisc players are unavailable
- five **student resource guides** (one per module)
- five **teacher's guides** (one per module)—annotated versions of the student guides, containing barcodes for accessing the videodisc segments
- **computer software** containing application activities (35 activities, one for each of seven career clusters); these activities are designed to follow each of the five modules
- a special **teacher advisement track** on the videodiscs (but not on the videotapes), offering content enhancement and instructional suggestions
- an **assessment track** on the videodiscs (but not on the videotapes), linked to video segments that are suitable for portfolio as well as traditional assessment procedures
- **classroom utilization component**—a teacher training videotape and a workshop leader's guide

Although the videotapes provide an option when videodisc players are not available, only the videodisc version will permit teachers and learners to take full advantage of the curriculum's interactive design and features.

The student guides provide blank spaces and empty lines for students to work out problems and to answer questions; therefore, the guides may be treated as consumable items. But directions for all written activities in the guides include the option of writing on "a separate sheet of paper," according to school policy or teacher preference. Teachers may also ask students to maintain journals in which they enter all written work. The guides lend themselves well to any of these practices.

The software programs are designed for small groups of students who share an interest in one of the seven career clusters. The 35 software programs (five simulations for each cluster) encourage students to apply the information and understanding they have gained in a module to realistic challenges in their own field of interest. Although the software may be used by individuals, it has been crafted for small teams of from two to four students.

Packaging

The videodisc(s), videotape, and printed guides for each of the five modules are packaged together. A sixth box contains the classroom utilization materials and the computer software diskettes, which contain the career application activities for use with all modules.

Portfolios

Teachers are strongly urged to have students maintain **portfolios** for collecting their work during the course. Module assignments, printouts of software activity, and tests collected in folders will allow instructors and students to track performance across all modules. A portfolio represents a convenient way for the instructor to monitor progress from one module to the next. The student may also find a portfolio advantageous when applying for a job, inasmuch as its contents can demonstrate the applicant's ability to perform key skills.

Module Topics and Treatment

The curriculum is divided into five modules, each organized around a central economic activity: producing, ex-

changing, consuming, saving, and investing. These modules are best taught in the sequence in which they are presented. Each module contains up to eight lessons spanning from 12 to 20 class periods of 50 minutes each. Taken together, the lessons in the five modules provide a comprehensive semester-long experience (75 class periods) in applied economics. The box below contains a brief description of module contents.

Contents of Modules

1. **Producing**—the activities and institutions needed to transform human and nonhuman resources into goods and services that satisfy individual and collective wants; eight lessons plus application and field activities; 20 class periods

   Concepts—resource allocation, demand, supply, costs, market price, profit, efficiency, equity, market structure, input and output prices, competition, comparative advantage, economic stability, economic growth

   Contextual illustrations—profits and loss at a General Motors plant; bicycle sales and manufacturing profits; profits, losses, technology, and competition in architecture and landscaping businesses; unemployment issues in the computer industry; foreign trade and its impact on the athletic shoe industry; labor costs and productivity in the United States and other countries; employment during recessions

2. **Exchanging**—the activities and institutions needed to deliver what is produced to consumers; four lessons plus application and field activities; 14 class periods

   Concepts—costs, transaction costs, markets, efficiency, transportation, merchandising, externalities, functions of money, foreign exchange, debtor, creditor, anticipated and unanticipated inflation, equity, economic stability

   Contextual illustrations—different means of ordering tickets to entertainment events; indirect costs of trash; use of foreign-produced components in the manufacture of cars; Consumer Price Index, inflation, credit and debt, the value of the dollar, and effect of these on a young photographer who needs to invest in new materials and equipment

3. **Consuming**—the activities and institutions needed to satisfy individual and collective wants; six lessons plus application and field activities; 17 class periods

   Concepts—competition, demand, supply, governmental regulation, efficiency, equity, market, public goods, externalities, equilibrium price, incentives, inventory, replacement and acquisition prices, comparative advantage, input prices, transportation costs, income, employment, economic stability

   Contextual illustrations—reasons for local, regional, and national price differences experienced by students traveling during spring break; effect of cost of pollution regulations on prices; price changes of gasoline and building supplies; difference between Mexico's and Korea's consumption of U.S. products; comparison of purchases of goods by unemployed and employed

4. **Saving**—the activities and institutions needed to satisfy the preference to consume more later; four lessons plus application and field activities; 13 class periods

   Concepts—market structure, supply, demand, costs, risk, efficiency, scarcity, income, choice, opportunity cost, interest rate, cost/benefit analysis, profit, equity, disposable income

   Contextual illustrations—difference in bank interest paid on savings and interest charged for 36-month new-car loan; difference between cash and credit prices of cars and stereos; effect of decreasing interest rates on investment decisions in agriculture; rising interest rates and the effect on savings accounts

5. **Investing**—the activities and institutions needed to increase resources and productivity; five lessons plus application and field activities; 11 class periods

   Concepts—productivity, demand, supply, opportunity cost, present value, discounting, interest rate, annuity, human capital, specialization, surplus, economic security, input prices, substitution, profit, efficiency, equity, economic stability, GDP, investment, economic growth

   Contextual illustrations—differences in earning powers of graduates of college, trade school, and high school, as observed at 10- and 20-year high school class reunions; effect of interest rates, present value, and future value on a decision to make a loan; robotics and automation and effect on employment in the medical field; investment in either tools or luxury goods by a young tradeswoman and effect of this kind of decision on GDP

Lesson Design

The first lesson in Module 1 introduces the five module activities (producing, exchanging, consuming, saving, and investing) and dramatizes the effect of economic events on people at work and in their personal lives. The video segments take viewers on a walk down Market Street in Anytown, U.S.A. The interactive feature permits students to see examples of any of the five economic activities they choose and to practice identifying the activities in additional settings.

This lesson also defines the concept of scarcity and explains how this concept, combined with the assumption that all individuals seek to satisfy their needs and wants with the least amount of effort, provides students of economics with a foundation for describing all economic activity and behavior.

All lessons draw their content from the National Council's *Framework*. Every lesson introduces an economic event in general terms in the printed guide ("Econ Briefing" and "Power Up"). When applicable, the guide then presents an introduction to the video segment ("Take a Closer Look"), which is punctuated with questions and problems ("Economic Puzzle Challenge") that draw in the students as active viewers and learners. (Twenty of the 27 lessons are accompanied by video.) This is followed by a "Put It Together" section in which the main themes of the lesson are connected.

Finally, the guide presents a concluding section with summary ("Net Gain"), extension ("Building on Success"), and assessment ("Quality Control") activities.

(Note: Some of the department headings in the seven nonvideo lessons have titles that differ from those of the video lessons. For example, in the print-only lessons "Case in Point" takes the place of "Economic Puzzle Challenge"; however, there is a general correspondence among the two types of lessons.)

Here is the sequence of a typical video lesson:

Introduction of an Economic Event and Related Concepts—Print

In the lesson "Nice Shoes!" the general economic event that is presented could be summarized as "The output of some firms is exported far from the place of production." The guide describes the experience of a young worker in a small town shopping at the only furniture store. This scenario leads students to consider the concept of competition. Students are asked to suggest options for the young worker to find less costly furniture.

Then examples, questions, and activities lead students to explore the economics of the production of oak (for furniture frames) and leather (for luxury upholstery) in order to discuss the concept of absolute advantage. The guide then compares two printing firms to introduce the concept of comparative advantage. Students are asked to decide whether each of the two firms should specialize in one kind of production, and, if so, which kind.

Video Presentation and Problem-Solving Challenges—Video and Print

The video in "Nice Shoes!" features the athletic shoe industry. The program is divided into several parts, which feature the design and production of shoes, a manufacturer's need to import leather for shoe production, the effect of a competitor's lower prices, and the effect of increased exports on U.S.-made shoes.

The videodisc segment pauses on screens that present discussion questions. (The videotape version must be paused manually.) All on-screen questions are also contained in the guides, where they are supported with background information. Some questions may require students to look up information or to do research. After discussion (or during the next class meeting), barcodes in the teacher's version of the guide permit the teacher to resume the videodisc segment.

These on-screen questions form part of a complex, multipart "Economic Puzzle Challenge." In every part of the challenge, students are typically asked to consider several options and to select a course of action or an appropriate response ("Decision Time"). Barcodes permit the teacher to play different portions of the videodisc in order to display the consequences of each option, in response to students' choices. Frequently additional sections in the print ("For More...") provide further information related to the challenge.

Conclusion—Print

The next three sections of the lesson appear in the guide. In "Nice Shoes!" the "Put It Together" section presents several high-interest short readings that explore currency

exchanges, the economic effect of the 1995 Kobe earthquake, and the economic impact of a popular rock group, the Beatles, in the 1960s and today. "Net Gain" offers students a chance to review key concepts and to apply them to other situations and to their own lives. "Building on Success" suggests creative extension activities, often to be completed in pairs or small groups.

Application and Field Activities

After completing the lessons in a module, teachers are encouraged to provide their students with time to complete the application activities related to the seven general career areas contained on the computer diskettes. The problems presented on the diskettes have been carefully designed for group use. All members of a group are required to enter responses to questions and problems. Furthermore, the programs retain all files on which groups work so that teacher or students can review and check them. The programs also delineate the contribution of each member of the group.

Assessment

For video lessons, "Quality Control," the final section of each lesson, contains two sets of questions for assessment purposes. The assessment opportunities are appropriate for both traditional and portfolio assessment methods.

The first set of questions, "On Your Own," appears only in the guides. Students may work on these either at home or in class, as the teacher prefers. The questions may be answered in the guides, on separate sheets of paper, or in journals. Suggested answers are contained in the annotated teacher's version of the guide.

A second part of the assessment section, "In Class," is linked to a special assessment track on the videodisc. By swiping barcodes, teachers can play questions as voice-overs to video footage that students previously viewed. Students are prompted to reflect upon and to apply previously learned material in new contexts. Then they answer the questions in class. (This assessment audiotrack is not available on the videotape version; nor is it accessible on older videodisc players.) Questions and correct answers to the questions are printed in the annotated version of the guide.

Teacher Support

Instructional Suggestions (Teacher Advisement Track)

An additional audiotrack on each of the *Economics at Work* videodiscs offers ongoing suggestions to teachers for introducing material and for managing student activities. Teachers can access these suggestions by swiping barcodes in their guides. (The teacher advisement track is not available on the videotape version of the curriculum.)

Extension Activities

In addition, the guides contain ideas for extension activities involving the community. These include suggestions for business and professional persons whom students might interview, individuals who might be invited to speak in class, "shadowing" or observation activities, research into local companies, and field trips.

Classroom Utilization Component

A videotape demonstrates actual classroom use of the *Economics at Work* curriculum. In addition, a workshop leader's handbook provides agendas and information for workshop leaders whose task is to introduce the curriculum to teachers. These materials are packaged with the software diskettes that contain the application and field activities.

Appendix—Videodisc and Print

The Appendix to every guide includes a glossary of the key terms ("Econcepts") introduced in the lessons. The glossary appears in both the student and teacher versions of the guides.

In addition, the teacher's version of the guides includes a list of resources, featuring a bibliography of books and articles for further information and background. The teacher's resource also contains a database of graphs and charts that are accessible by barcode from any videodisc; for instance, a teacher who wants to display a graph showing the relationship between price levels and output may swipe the appropriate barcode and bring up the graph on the video monitor, no matter which videodisc side is in the player.

Using Multimedia Technology

The *Economics at Work* curriculum takes full advantage of the resources of multimedia technology to stimulate student interest and to involve students in active learning. Interactive videodiscs or videotapes and computer software help deliver and support the lessons in the printed guides.

Instructors receive additional support through the special teacher advisement track, which contains suggestions for optimizing the effectiveness of the lessons. Further support is provided through an assessment track and an extensive database—which are accessible by barcodes in the guides—and through the classroom utilization component.

Interactive Videodiscs

Interactive videodiscs permit instructors to show students any part of a videodisc merely by swiping a barcode either with a wand or an automatic barcode reader. This nonlinear mode of instruction enables teachers to move swiftly from one segment of the videodisc to another for such purposes as exploring related topics or reviewing earlier material.

Instructors may also have students use barcoded material for individual work or remediation. Teachers may also access assessment material, instructional suggestions, or database items by using barcodes. (Note: The assessment and support materials, recorded on separate audiotracks, require LB2 videodisc players.)

Videocassettes

For instructors who do not have videodisc players available, a linear version of *Economics at Work* has been developed on videocassettes. The instructional materials on these videotapes are the same as those on the videodiscs; however, tapes do not allow instructors instant access to whatever part of the materials they wish to use. Instructors face the minor inconvenience of having to rewind or fast-forward to reach the desired part of a videotape.

To minimize this problem and to save classroom time, teachers should determine beforehand the exact locations of the segments that they wish to show in class. Each videotape contains a running clock (hour, minute, second) in the upper left-hand corner of the screen. Its purpose is to assist teachers in locating or cuing up specific parts of the tape. In addition, by using the counting display on a videocassette recorder or videocassette player, teachers can quickly move to the exact spot desired.

When viewing tapes, logical places to pause are the still frames containing discussion questions. Upon reaching these points, the teacher should press the Pause button on the tape player (not the Stop button, which may create a loud burst of static). At the end of the discussion period, the instructor may press the Play button to resume the tape.

The videocassettes do not contain the additional audiotracks with assessment and instructional suggestions; nor do they provide programmed interactivity or permit access to the database, which is barcoded in the guides. However, the videocassettes are closed-captioned for hearing-impaired individuals. (Videodisc technology does not allow this feature.)

Advantages of Videodiscs

Videodiscs offer several advantages over conventional classroom audiovisual materials, including filmstrips, slides, movies, or videotapes.

- Videodiscs are practically indestructible.
- They are easy to use.
- Access is fast and unlimited—an instructor can display any segment on the videodisc within seconds.
- Videodiscs save time, eliminating the need to rewind and fast-forward through a videotape to find a certain part.
- They allow special effects to enhance a classroom presentation. The instructor can freeze individual frames on the TV screen, step through a series of frames one at a time, or show scenes in slow motion.
- Videodiscs reduce storage space. They are compact, yet they hold a large amount of information. The *Economics at Work* videodiscs contain additional assessment questions, instructional suggestions, and an extensive database, all of which are barcoded in the guides.

How to Use a Videodisc Player

Setting Up

***Option A**—If the TV or Monitor Has Separate "Video-In" and "Audio-In" Ports:*

1. Connect the video-out port at the back of the videodisc player to the video-in port of the TV or monitor.
2. Connect the audio signal from the videodisc player to the TV or monitor.
3. Switch the TV to the appropriate source. (A button designated "Ext." or "Aux." will usually be found among the controls on the front of the set.)

***Option B**—If the Monitor Has Only a Single Coaxial-Cable Input:*

1. Connect the videodisc player's "RF" port (if it has one) to the coaxial "Antenna" or "Cable" port on the TV or monitor. (If the videodisc player does not have an RF port, then an RF modulator will be needed. This item can be purchased at an electronics supply store. If a modulator is needed, the videodisc player must be connected to it with the video and audio cables, and the modulator must be connected to the TV or monitor with the single coaxial cable.)
2. Under this option, the picture must be viewed on Channel 3 or Channel 4. Select the one desired on the TV or monitor and, if necessary, on the back of the videodisc player.

General Operating Instructions

1. Turn on the Power switch of the TV or monitor.
2. Turn on the Power switch of the videodisc player.
3. Press the Open/Close button—the videodisc table will extend from the player.
4. Place a videodisc on the table, with the labeled side of the videodisc to be played facing up. Use only one videodisc at a time. Take special care to align the videodisc within the guides on the table.
5. Press the Open/Close button—the table will close.
6. Some videodisc players require that a Play button be pressed to begin use.

Using the Barcode Wand

1. Press and hold down the Read button on the barcode wand.
2. Read (swipe) the barcode while constantly holding down the Read button. Hold the wand in a vertical position as if holding a pencil, and move it horizontally across the barcode in either direction. Be sure to swipe the entire barcode.
3. After the barcode has been read, an electronic "beep" will sound. (If the attempt to read the barcode was unsuccessful, change the angle at which the wand is being held, or modify swiping speed.) Next, aim the wand at the videodisc player and press the Send button.
4. If the barcode wand is hard-wired to the player, the wand automatically sends its instructions to the player after the swipe. If the barcode wand has no wire, press the Send key.

Note: Some of these instructions may not apply if you are using an automatic barcode reader.

Swiping the barcode wand is an acquired skill that takes a little practice. It's all in the wrist, and as time goes on you'll learn how easy the wand is to use. So don't be impatient. Do some "dry runs" before class. There's a learning curve for any new technology. The practice will be worth the effort.

Overall, using a videodisc player might take some practice at first, but once the technique is mastered it's as easy as pushing a button.

Caring for Videodiscs

1. When loading or removing a videodisc, hold it by the edges and try not to touch its playing surfaces.
2. Although fingerprints and other dirt on the videodisc will not actually damage the recorded signal, such soil will reduce the brightness of the light that is reflected from the signal surface. This can impair sound or picture quality. If the videodisc is dirty, clean it with a soft, damp, clean cloth before playing. *Do not clean the videodisc with record-cleaning or static-prevention sprays. Never use a cracked, scratched, or warped videodisc, for this can damage the player.*
3. After using a videodisc, always remove it from the player and replace it in its jacket. Store it vertically, away from excessive heat and humidity.

Follow any other instructions provided by the manufacturer for using the videodisc player and barcode reader.

Software

The software diskettes containing 35 application problems in seven different career clusters are designed for use with either Windows®- or Macintosh®-based operating systems. The software is self-contained and requires no other word- or data-processing program.

Computer Hardware Specifications

WINDOWS

- CPU: 386SX 16 MHz or compatible processor
- 4 MB RAM, 8 MB recommended
- Hard-drive space required, 30 MB
- Windows-compatible sound card, 8 bit DAC, 8 bit ADC
- Video display resolution of at least 640 x 480 with 256 colors
- Windows-compatible printer
- Windows 3.1 or higher; Windows for Workgroups 3.1 or higher; MS-DOS or PC-DOS 3.3 or higher

MACINTOSH

- Mac LCII or better with a minimum of 16 MHz 68020, 68030, or 68040 accelerator; or PowerMac compatible
- 13" monitor (640 x 480) or larger, 8-bit color or grayscale
- Hard-disk space, 30 MB
- At least 4 MB RAM, 2 MB available for program use
- System 6.0.7 or later

Some Compatible Laserdisc Equipment*

- Pioneer 2400, 2600, 8000 Models or later
- Sony MDP 1150, 1700 AR Models or later
- Suggested barcode readers: Pioneer Model V108-BC; Sony Model RM-B1150

*Not all-inclusive

ELECTRONIC MEDIA LIMITED WARRANTY

The Agency for Instructional Technology ("AIT") extends the following warranty to the original customer only.

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This warranty covers the media on which the AIT software/data are recorded. This limited warranty does not extend to the information contained on the media and in the accompanying book materials (the "software/data"). The media product is warranted against malfunction due to defective materials or construction.

This warranty is void if the media product is damaged by accident or unreasonable use, neglect, installation, improper service, or other causes not arising out of defects in material or construction.

Warranty Duration

The media product is warranted for a period of three months from the date of the original purchase by the customer.

Warranty Disclaimers

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A. Any implied warranties that arise out of this sale are limited in duration to the above three-month period. AIT will not be liable for loss of use of the media or other incidental or consequential costs, expenses, or damages incurred by you, the consumer, or any other user. Furthermore, AIT will not be liable for any claim of any kind whatsoever by any other party against the user of the software/data.

B. AIT does not warrant that the software/data and the media will be free from error or will meet the specific requirements of the consumer. You, the consumer, assume complete responsibility for any decisions made or actions taken based on information obtained using the software/data.

C. Any statements made concerning the utility of software/data are not to be construed as expressed or implied warranties.

D. AIT MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE SOFTWARE/DATA AND MAKES ALL SOFTWARE/DATA AVAILABLE SOLELY ON AN "AS IS" BASIS.

E. In no event will AIT be liable to anyone for special collateral, incidental, or consequential damages in connection with or arising out of the purchase or use of the software/data. The sole and exclusive liability of AIT, regardless of the form of action, will not exceed the purchase price of the media.

F. Some states do not allow the exclusion or limitation of implied warranties or consequential damages; therefore, the above limitations or exclusions may not apply to customers in those states.

Further Disclaimers of Warranty

AIT will extend no warranty where the software is used on a machine other than that designated on the software package.

Media Replacement

Provided that you, the consumer, have satisfactorily completed and returned a copy of the License Agreement, AIT will replace, during the warranty period, any defective media at no charge. At AIT's option, the defective media must be returned, postage prepaid, along with proof of purchase date. Please contact AIT at the address shown below for return instructions before returning any defective media.

Agency for Instructional Technology
Box A
Bloomington, IN 47402-0120
800/457-4509

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Toll-Free Assistance Number

Support is available to help you with any technical or content problems you may experience with this media product. If you need assistance, call AIT toll-free at 800/457-4509.

If you identify a technical problem, please check your hardware to make sure it is working properly. If the hardware is functioning correctly, contact http://ait.net on the World Wide Web or call the above number. Please have the following information and materials on hand when calling:

- instructor's manual
- list of any error messages
- students' printouts
- description of the problem
- computer type and model
- computer's memory configuration
- version number of operating system
- name and version number of commercial software (if applicable)

You should indicate to the person in customer service whether you have a technical or content question. A specialist will call you back.

Please do not permit your students access to this number. You may also call this number if you want to order software or if you need product information.

Notes

1. Cognition and Technology Group at Vanderbilt, "Anchored Instruction and Its Relationship to Situated Cognition," *Educational Researcher* 19 (1990): 2–11.

2. F. Newman and G. Wehlage, "Standards for Authentic Instruction," *Issues in Restructuring Schools* 4 (1993): 3–6.

Side 5
Graphical Database Barcodes

(Use "step still" function or barcodes below to advance within categories.)

Step Back

Step Forward

Elasticity

Role of Profits

Product Markets

Consumer Behavior Theory

Production Theory

Foreign Exchange Markets

Human Resource Market

Nonhuman Resource Market

Aggregate Supply & Demand

Loanable Funds Market

Side 5
Teacher-Track Barcodes

Exchange

Markets

Transaction Costs

Transaction Costs—More

Opportunity Cost

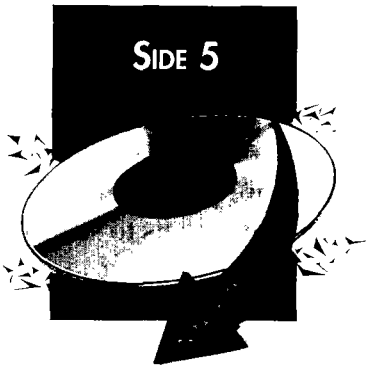
Exchange Illustration

Puzzle Challenge Overview

More Teaching Tips

ECONOMICS® at Work

Module 2, Lesson A



TICKETMAX

ECON BRIEFING

MARKETS, markets, markets...wherever you look, you see markets. All around you, 24 hours a day, people are buying and selling cars, cantaloupes, concert tickets, clothing, computers, and creme-filled doughnuts....Where does all this buying and selling take place? It happens at malls, supermarkets, car dealerships, roadside stands, and garage sales. It occurs over the phone, by computer, or through the mail. It doesn't matter where or how you make a purchase, whenever buyers and sellers come together, that's a market.

Have you ever wondered why there are so many ways to purchase the same item? Concert tickets, clothing, and mountain bikes can all be purchased in a number of ways. This lesson focuses on why you choose one market over another and how businesses respond to you, the buyer, by providing goods or services through a market that you will use.

WHAT YOU'LL LEARN IN THIS LESSON

- Markets bring together buyers and sellers in a variety of ways.
- Differences in the costs and benefits will cause buyers to choose some markets and not others.
- The price is not the only cost that a buyer considers when choosing a market.
- Businesses will provide the goods and services that consumers want through different markets so they can sell more.
- Effective economic decision making means weighing all of the costs and benefits of your options before choosing.
- Buyers can satisfy their wants more efficiently by improving their economic decision making.

3 CLASS PERIODS

Materials

This lesson uses the videodisc (or videotape) program **TicketMax**. To complete the activities, students will need only writing paper or a journal. You may wish to use the following items for class discussion: various mail-order catalogs, a list of special events held at a mall during the Christmas season, a seating chart from an arena or theater, and information on your state laws or municipal ordinances that deal with scalping.

INTRODUCTION

This lesson introduces the concept of a market. Students analyze different types of markets and look at the various ways to buy a good or service. They learn how to identify the costs and benefits associated with different methods of making a purchase. Students also learn how information about transaction costs and opportunity cost can improve their economic decision making.

GOALS

Students will be able to demonstrate their understanding that businesses are motivated by profit to provide goods and services, and that these goods and services are sold through a variety of markets that people will use.

Payback

When you want to buy something—tickets, jeans, a used car, or anything else—you probably try to purchase it at the lowest possible cost (unless you just enjoy spending more money than you have to). If you're like most people, you will carefully choose which market to use. Should you stand in line at the box office for tickets to see Madonna or use the ticket service instead? Should you order a bomber jacket from the catalog or check out the mall?

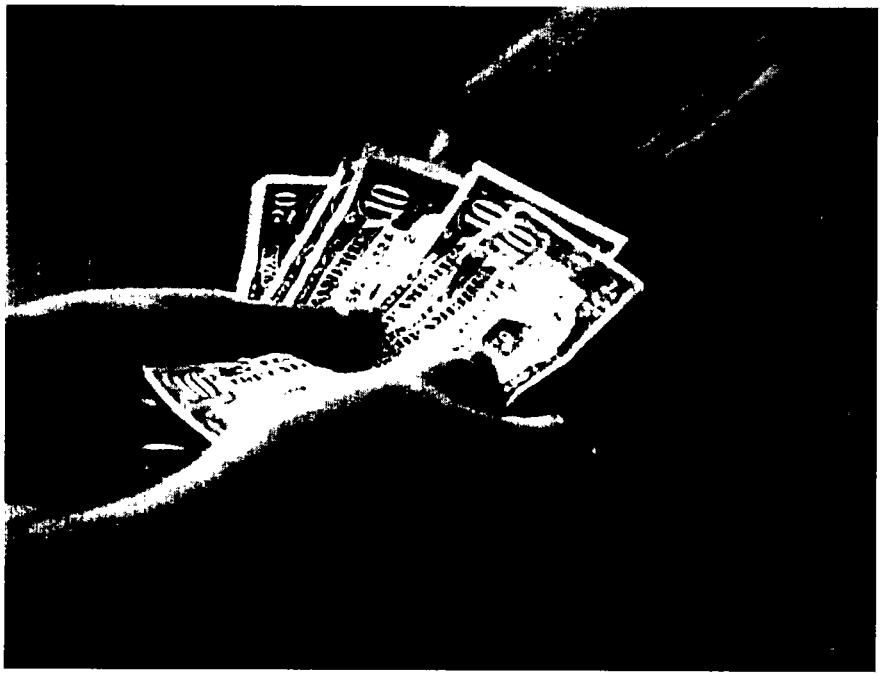
Every market has specific costs and benefits associated with purchasing goods or services. When you complete this lesson, you will understand how different kinds of markets work. You will know what's involved in making an effective economic decision. You will know how to maximize your benefit (or satisfaction) at the lowest possible cost. Knowing how to choose one market over another by weighing their costs and benefits will pay off for you every time you buy something.

You'll be buying many things in the days and years ahead. This lesson can help you get the most for your time and money.

Objectives

Upon completing this lesson, students will be able to:

- explain what a market is and describe examples of markets
- understand that people buy goods or services through the types of markets that will satisfy their wants at the lowest cost
- identify the transaction costs and the opportunity cost associated with various markets
- explain why sellers are willing to provide goods and services so many different ways
- describe how information about the costs and benefits associated with alternative markets can be used to improve economic decision making



No matter where or how the exchange takes place, whenever items are bought and sold, you've got a market.

Econcepts

economic decision making—the process of weighing the possible costs (including transaction and opportunity costs) and the possible benefits linked to different alternatives; this process can be used to evaluate the different ways to buy a good or service

market—the buying and selling of goods and services, or the place where this occurs

opportunity cost—the highest valued alternative that must be given up because another option is chosen; if you spend the afternoon studying and your most desirable alternative was watching TV, then your opportunity cost or "missed opportunity" may be the chance to watch "Brady Bunch" reruns

transaction costs—those costs, in addition to the price of the product or service, that must be considered when making a purchase; for example, a long-distance phone call to order a product

Lesson Description

The video uses four contextual illustrations to teach the concept that firms sell goods and services in many types of markets so that consumer wants can be satisfied efficiently. Three of the examples involve the purchase of tickets—to a concert, to a car race, and to a basketball game. The final example deals with the market for pizza. Students will analyze these markets and others as they learn how and why markets operate.

Key Terms

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

POWER UP

THERE'S a multitude of markets out there. Where do you do most of your Christmas shopping? Where do you buy your gas, your groceries, your pizza? Have you ever purchased something over the phone—or through your computer? Did you know that a chain of fast-food restaurants sold more videotapes one year than major video stores sold? Many different kinds of markets link buyers with sellers.

Businesses (sellers) want to make profits. This is what motivates them to provide the goods and services that people want—and to provide them where and when people want them. Consumers buy goods and services that will satisfy their wants at the lowest cost. As a consumer, you have to consider all the costs if you want to make an effective economic decision. Some of the costs will be obvious, but others might be hidden. As you read the story on the next page, consider what it cost Christina to do her Christmas shopping.

> ***"If you give something worth paying for, they'll pay."***
>
> **—Thomas J. Peters, American business writer**

PREVIEW

Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 1–2). Discuss the term "market." Ask students to speculate why so many ways exist to purchase the same item. Accept all reasonable responses that they offer.

Introduce the **Econcepts**, and give contextual examples of each. Ask students to refer to them as needed during the lesson.

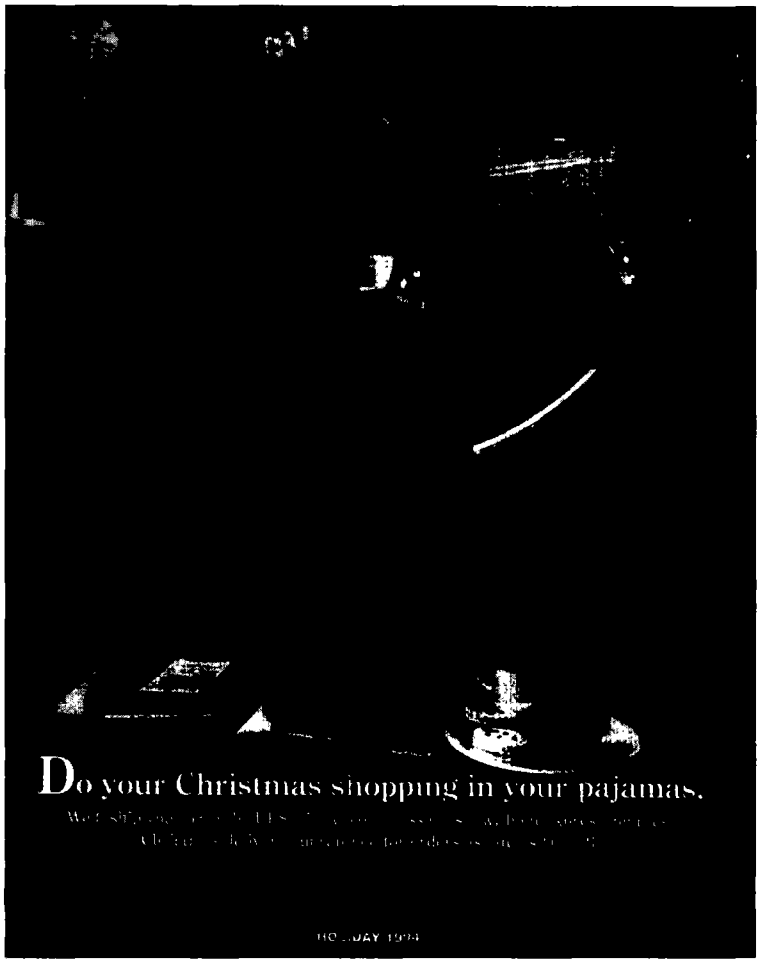
Have students read the first two paragraphs of **Power Up**. Encourage them to discuss where they shop and why they shop there. Ask if any of them purchased a video from McDonald's. If students wished to own the video that McDonald's was selling, why hadn't they already bought it at a video store? Encourage whole-class discussion.

Introduce the story "Christina's Christmas Shopping" by explaining that consumers choose to buy a good or service in a particular market because it will satisfy their want at the lowest cost. Have students read the story. Encourage them to look for the "costs" of Christina's shopping as they read.

Ask students to work as individuals or in groups to answer the questions that follow the story.

Christina's Christmas Shopping

Last December, Christina had to take off from work three Saturdays to get all her Christmas shopping done. She couldn't do the shopping after school because she was too busy with homework, piano, and the debate team. Even though she drove to the mall early on those Saturdays, she always had to circle the lot at least twice before she could find a parking space. And whenever she went, she didn't enjoy her shopping as much as she had expected, because Christmas cheer always seemed in short supply. The salespeople acted rushed, even rude sometimes, and another customer actually reached around Christina to snatch a video game that she was thinking of buying for her brother. To make matters worse, she couldn't find the right sizes or colors for many of the gifts she wanted.



With its catalogs and toll-free order lines, the billion-dollar mail-order industry can turn your living room into an international marketplace.

On Christmas Eve, Christina went to visit her aunt Jess, an economics teacher, and happened to notice a stack of catalogs on a bedside table.

"That's how I do my Christmas shopping," Aunt Jess explained. "I can page through my catalogs after the kids are asleep. I don't have to get a babysitter to watch them while I fight the traffic at the shopping center. I can phone in my orders whenever I want to, 24 hours a day. The selection is good, and the customer-service people are polite and helpful."

"But aren't these catalogs an expensive way to shop?" Christina asked.

"Some are," Aunt Jess admitted, "but others have items that are reasonably priced. They have 800 numbers too, so I don't have to pay for my phone calls—and besides, your shopping trips to the mall sounded pretty costly to me!"

Do you agree with Aunt Jess? Answer the following questions to help you decide if Christina should shop by catalog next Christmas or if Aunt Jess needs more Christmas spirit. Write your answers on the lines provided, or use a separate sheet of paper.

- What is the "want" that Christina is trying to satisfy through her trips to the mall?

_____

- List all of the "costs" that Christina experiences to do her shopping at the mall. Then list the "benefits" or advantages that she receives from her trips.

Costs	Benefits

- What costs or disadvantages does Aunt Jess incur when she does her catalog shopping? What are the benefits she receives?

Costs	Benefits

- Do you think the "want" that Aunt Jess satisfies by using catalog shopping is the same "want" that Christina satisfies by going to the mall? Explain your answer.

_____

_____

_____

_____

- Using the information on the costs and benefits of each shopping method, do you think Christina should consider catalogs? Or does Aunt Jess need more Christmas spirit to get her to the mall? Why?

_____

_____

_____

_____

Students may respond along these lines:

*The **"want"** that Christina is trying to satisfy is to do her Christmas shopping.*

***Costs (disadvantages) of shopping at the mall** include missing work; getting up very early; buying gasoline; trying to find a parking space; dealing with rude salespeople and impolite customers; finding a poor selection of merchandise. **Benefits (advantages)** include making immediate purchases; having the opportunity to see, touch, or try on different items; finding a lower price (maybe!); being able to make returns conveniently.*

***Costs of catalog shopping** include having no opportunity to see, touch, or try on merchandise; paying shipping and handling charges; having to pay a higher price (maybe!); waiting to receive goods; paying more postage or shipping charges to return goods. **Benefits** include shopping from home; being able to shop 24 hours a day; choosing from a fine assortment of items, some of which may not be available locally; dealing with polite customer-service people; being able to shop while watching the children, instead of having to pay a babysitter.*

Yes, both Christina and Aunt Jess seem most interested in satisfying the "want" to purchase Christmas gifts. Nothing in the story indicates that either one of them strongly desires the hustle and bustle, the crisp air, or the sound of ringing bells that accompany Christmas shopping; however, Christina "didn't enjoy her shopping as much as she had expected," which suggests that she may have wanted a little pleasure from the mall experience.

Because Christina experienced so many costs and received so few benefits, she should consider doing some catalog shopping. This is especially true if her schedule of school, work, and activities means "giving up" something important in order to shop. Aunt Jess seems comfortable with her choice. She does not express a desire for the mall experience. For her, catalog shopping is the market that satisfies her want for gifts at the lowest cost.

VIDEO CORE

The first video segment examines various ways of purchasing a ticket to a rock concert. Ask students to read the first five paragraphs of **Take a Closer Look**. After they finish reading about Joanne, use the following questions as whole-class discussion prompts.

Why was Joanne willing to pay the added transaction cost—the amount over the face value of the ticket—for a good seat to Hootie and the Blowfish? *Students may answer: Because Joanne really likes the band, and so, for her, the benefit of a good seat is worth the added cost.*

Why might you not choose to pay the transaction cost for concert tickets? *Students may respond: If the group is not one of your favorite bands, then the benefit of a good seat is not worth the added transaction cost.*

TAKE A CLOSER LOOK

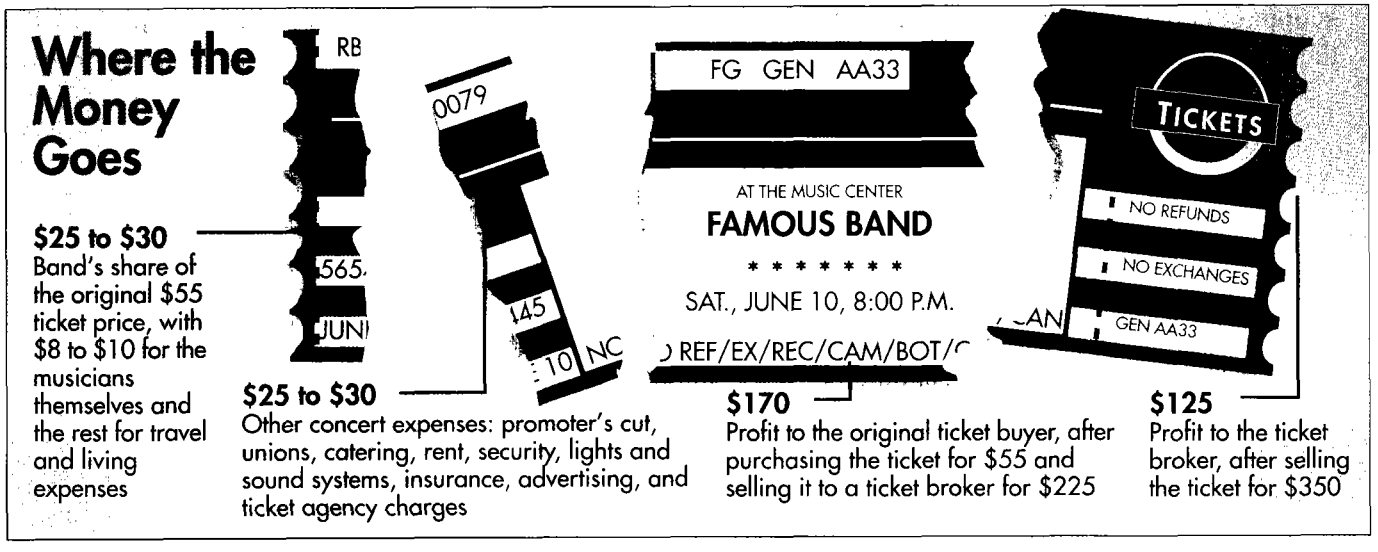
As you saw in the story about Christina, there's more than one way to shop for Christmas gifts. You can also buy a ticket to a rock concert in different ways.

Suppose your friend Joanne calls to suggest that the two of you get tickets to Hootie and the Blowfish. The concert is still two months away, but the tickets go on sale tomorrow. Joanne is a big Blowfish fan. She has all their CDs, and last year she drove 150 miles to a concert after one was canceled in your town. Now they are scheduled again for the Arena, and it looks as if the concert will be a sellout. Joanne wants to phone Quicktix to buy the best seats available as soon as they go on sale.

"Go with me," she urges on the phone. "Come on, it'll be great!"

Should you go along with her plan? Do you want to pay $50 for a great seat? You tell her you'll call her back in an hour.

The problem is you're not that big a Blowfish buff. Oh, they're good, and you like them okay, but they're not your favorite band, and $50 is a bunch of money. Not only that—Quicktix adds a hefty service charge to the price of its tickets. This added **transaction cost**—the amount over the face value of the ticket—puts the price beyond the moon. So you call Joanne back and suggest that she ask Colleen, who's a lot more excited about the Blowfish than you are. After you hang up, you head to your brother's room to see if he wants to try to get some balcony seats at the box office. Those won't cost much, and—who knows?—there might be a good warm-up band....



Time (June 20, 1994)

What You'll See on the Screen

In the opening segment of "TicketMax," you will explore several ways of buying a ticket to a rock concert, and you'll examine the costs and benefits associated with each method. Then you will hear a young woman discuss the different ways of securing a ticket to the Indianapolis 500 auto race. For only $15 she can get a ticket to the infield—but she wouldn't see much of the race from there. It's definitely a low-cost alternative, but what about buyer satisfaction?

In the Economic Puzzle Challenge, you can help Lisa, Ben, and Justin choose the most efficient way to buy three tickets to the NBA playoffs. What would you do? How much would you pay? Is the sky the limit?

Then it's pizza time. Everyone knows there's nothing like pizza after a big game—but would it be better to eat in or carry out? How would you decide?

Now sit back and enjoy the first part of "TicketMax." As you watch the video, think about the costs and benefits associated with each marketplace.

Introduction to the Video

Ask students to read **What You'll See on the Screen**. As students prepare to watch the first part of **TicketMax**, remind them to look for examples of the costs and benefits associated with choosing different markets.

Talk This Over

Tickets, tickets, tickets...

As you watch the video, you will see a series of questions about your own ticket-buying experiences. Write your responses on the lines below or on a separate sheet of paper, then discuss them with your classmates.

The last time you bought a ticket...

How did you buy it?

_____

_____

Why did you buy it that way?

_____

_____

_____

Identify the transaction costs involved.

_____

_____

_____

Video-based Activities, Part 1

Start the videodisc (Side 5), and swipe this barcode to play:

TicketMax
(introductory segment)

The video will present the following questions.

The last time you bought a ticket...

How did you buy it?

Why did you buy it that way?

Identify the transaction costs involved.

Have students respond to these questions in writing. Encourage class discussion of the various ways students have purchased tickets. Make sure students are aware of the transaction costs they incurred, especially if the costs are not obvious.

Further Discussion

Ask students to read the first paragraph of **For More...** on this page. Have them work individually to respond to the questions in this paragraph. Accept a variety of responses, but emphasize that when someone chooses a specific way to purchase a ticket, that person's decision is based on **expected** costs and benefits. The **actual** costs and benefits may turn out to be different—there is usually some risk involved in economic decision making. Conclude the discussion by asking, "What if you buy the best seats to see a great band, but the group shows up two hours late, plays for only 45 minutes, and performs none of your favorite songs?" Emphasize that actual costs would be much higher than expected costs.

Have students read the next two paragraphs, which include the different ways of buying a ticket to a rock concert. *They should respond: Transaction costs associated with each method are: (box office) time spent standing in line; (ticket service) fee added to the price of the ticket; (classified ads) time and effort to call the seller, negotiate a price, and secure the tickets; (scalper) time and effort to find a scalper with satisfactory tickets and to negotiate a price.*

Ask students to answer the next two questions in this section. Then encourage them to discuss the transaction costs they experienced with their last ticket purchase. Students may report different transaction costs despite having used the same method of purchase; for example, the lines at the box office may have been longer or shorter, or different scalpers may have charged different premiums.

For More...

When you think back on your last ticket purchase, did the benefit or satisfaction that you received from the entertainment seem worth what you paid for the ticket? Why or why not? Write your answer on the following lines or another piece of paper.

The video revealed that some methods of buying a ticket include a transaction cost. Do you remember the service charge for the Hootie and the Blowfish tickets? That was a transaction cost. Anything you have to spend above and beyond the actual price is a transaction cost. Have you ever heard the expression "Time is money"? Well, even the time you spend standing in line is a transaction cost! How valuable is your own time? Can you afford to throw it away? To make an effective economic decision, you must consider **all** your costs.

Recall the transaction costs involved with each of the four ways to buy a ticket to a rock concert. Record your answers below or on a separate sheet of paper.

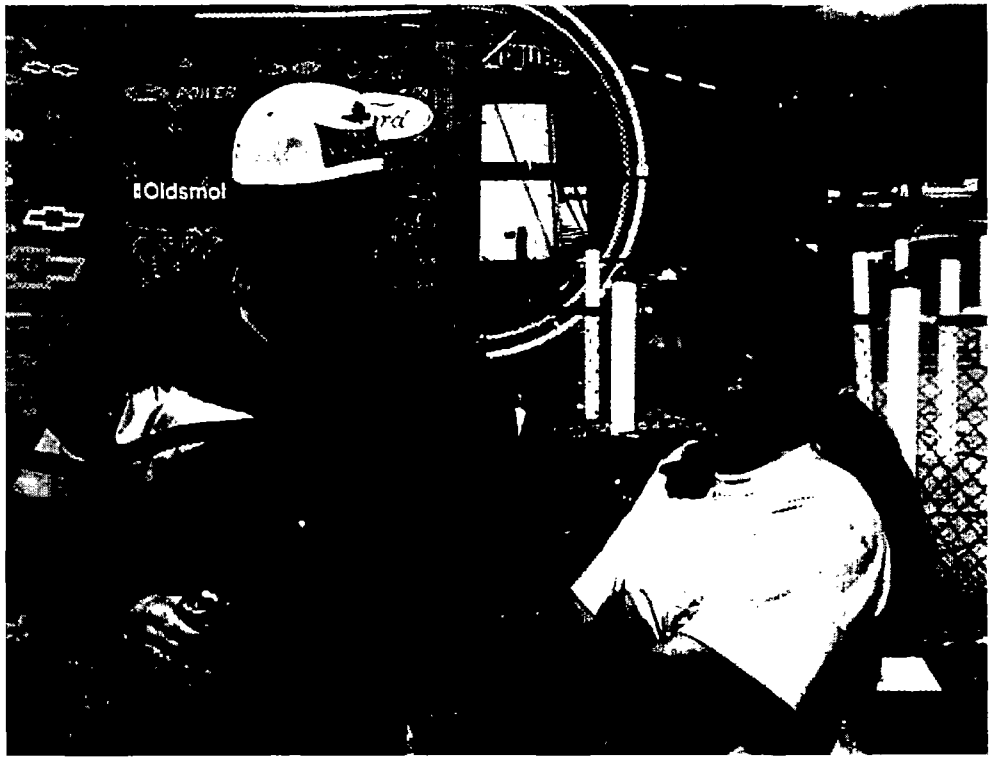
Method of Purchase	Transaction Cost(s)
Box office	
Ticket service	
Classified ads	
Scalper	

Now think again about the last time you bought a ticket. Identify the transaction costs involved.

Compare your answers with your classmates'. Did any of them record different transaction costs even though they used the same method that you used to buy tickets? How did their costs differ?

In the next part of the video, you'll see a young woman who is looking at ways to buy a ticket to a popular car race, the Indy 500. You now know that transaction costs—the costs you pay in addition to the ticket price—are an important consideration in economic decision making. The existence of transaction costs is not a well-kept secret. Everyone knows about them, even if they don't use the term. For example, companies that sell tickets are aware of transaction costs. They know that some buyers do not want to put up with the transaction cost of standing in line at the box office. Yet these same buyers will pay the transaction cost of calling and ordering the tickets from a ticket service. What's going on?

Now have students read the rest of **For More...** and make sure they grasp the concept of "opportunity cost." Encourage students to discuss their own opportunity cost of attending class today. What was the "missed opportunity"?



Scalpers have transaction costs too. If an event sells out, they might make a nice profit selling tickets to last-minute buyers. But if good tickets are available at the box office, they may have to lower their prices to compete.

To understand why someone is willing to pay one type of transaction cost and not another, consider what that person who is standing in line at the box office could be doing instead of standing in line. The value of that "missed opportunity" is called an opportunity cost.

Anytime you choose one way to buy something instead of another, your opportunity cost is equivalent to your next best alternative—what you gave up. Ticket sellers understand opportunity costs. They know that some buyers will use a ticket service (and pay extra money for a ticket) to avoid the transaction costs of driving to the box office, standing in line, and experiencing the "missed opportunity" of earning money at work, studying for a test, or soaking up some rays to get a nice tan. Watch the next part of the video to learn more about opportunity cost.

One-Stop Scalping Center

If you need to buy tickets from a scalper in Phoenix, Arizona, you can find one—in fact, you can find all of them—across the street from the basketball arena where the Phoenix Suns play their games.

Some cities ban ticket scalping altogether, and others try to limit the prices that scalpers charge, but Phoenix is the first city to put all scalpers in the same place. It's like a specialized flea market (or fleece market) for scalpers and their customers.

But the scalpers aren't doing as much fleecing as they used to. Now that all the scalpers must try to sell their tickets in the same marketplace, buyers are getting better deals. That's because there's more competition. Previously every scalper had his own little marketplace—on a street corner, in a parking lot, under a tree....This gave the scalper a big advantage, because it was difficult for a buyer to compare one scalper's prices with another's. For example, suppose a buyer thought a scalper was asking too much money for his tickets, and the buyer wanted to look for a better price...he would have to worry that, while he was roaming around in search of a second scalper, the first one would sell his tickets to someone else. Today, however, with all the scalpers in one marketplace, a buyer can easily compare prices and negotiate a better deal—or play off one scalper against another.

Phoenix's new open market approach has succeeded in reducing the prices that scalpers charge. It's an example of the law of supply and demand at work in a free enterprise system. Of course, the scalpers aren't happy about getting less money for their tickets; they prefer a closed market in which they control the supply. But the ticket-buying public—the demand side of the market—is delighted with the change. Thanks to free market principles that foster healthy competition, prices have been driven down, and the scalpers themselves have been scalped.

Video-based Activities, Part 2

Swipe this barcode to continue playing:

TicketMax
(introductory segment, continued)

The video will pause on the following question (which also appears in the *Student Guide*).

The last time you bought a ticket... what was the opportunity cost?

Have students respond in writing, and then encourage class discussion. Emphasize that because consumers are a diverse group, people will often report a different "next best alternative" when purchasing the same product. Ask students to compare their opportunity cost of a past ticket purchase with that of their classmates. For example, one student may have given up the chance to purchase a new jacket, whereas another student may have relinquished the opportunity to buy new running shoes. Emphasize that the choice to buy a ticket means giving up something. This "something" is the opportunity cost.

Talk This Over

When the video pauses, the screen poses a question:

> The last time you bought a ticket...what was the opportunity cost?

Write your answer on the following lines or a separate sheet of paper.

Compare your answer with those of other students. Some of them probably listed different opportunity costs even though they purchased tickets the same way you did. Take a few minutes to discuss answers.

For More...

Now that you know about opportunity cost, you can see why decision making—choosing between alternatives—can be a real challenge. Every choice means giving something up. You can't have your cake and eat it too. There will always be "the road not taken."

Suppose your company has a super year, and the boss surprises everyone with a special bonus: $200 per employee. What would you do with this money? Make a list of five ways you might spend the money. Each way should "use up" or consume the entire $200.

1. _____
2. _____
3. _____
4. _____
5. _____

Discuss the possibilities with your classmates to see how they would spend the money, then select your own top two choices. Now that you have narrowed down your list to two, make your choice. What would you do with your bonus? Draw a circle around your favorite option, and cross out your "second choice."

Your second choice—the option not selected—is your opportunity cost. Remember, to identify the opportunity cost of any decision, you must first rule out all but two of your options. You should not consider your opportunity cost to be all of the remaining choices, just the second-best one.

Further Discussion

Ask students to read **For More...** on this page for another example of the impact of opportunity cost in decision making. Have students complete the activity. When students share their answers, point out the variety of ways that students have decided to use the bonus. One student's top choice may be another student's opportunity cost. Close this discussion by emphasizing that sellers provide goods and services through different markets because they are aware of the variations in how buyers value the costs and benefits of alternative markets.

Use the "Sally Forth" comic strip as another example of opportunity cost. After students have read the strip and the text that accompanies it, ask, "What would happen if the boss scheduled the budget meeting for 9:30 A.M.?"

Students should respond in words to this effect: The opportunity cost of time spent in the meeting would increase because this is usually "productive" time for most day-shift employees. The boss would not want to incur the higher opportunity cost of "missed productive" work so that employees can attend a meeting with low benefits. If the budget meetings were productive and helpful, the benefits might be high enough to warrant the higher opportunity cost of a 9:30 A.M. meeting.

SALLY FORTH by Greg Howard and Craig MacIntosh

There's economics at work in this comic strip. By scheduling a 4:30 meeting, Sally Forth's boss is using the concept of opportunity cost to make a workplace decision. He knows that the time after 4:30 is not usually "productive." Workers are tired and hungry and no doubt thinking about going home. From his point of view, the time spent in the meeting has a low opportunity cost. If workers are giving up time at the water cooler to attend the meeting, then productive work is not the "missed opportunity." What do you think of the boss's idea?

Economic Puzzle Challenge, Part 1

Before swiping the barcode, ask students to read the introductory paragraphs to **Economic Puzzle Challenge, Part 1**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 1

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

What should they do?

Assist students in analyzing each of the possible responses. Then swipe barcodes for the options you wish to view.

A. Order from TicketMax.

Analysis: Another ticket market might be less expensive. This choice offers the certainty of getting three good seats together, if they are willing to pay the costs.

B. Think about how much will be left for concessions.

Analysis: This will be a concern if they buy the expensive seats. If they use a different market at lower cost, they will have money left over for refreshments.

C. Look into other ways of getting tickets.

Analysis: The group needs to evaluate the costs (including transaction and opportunity) and the benefits of using other ways to purchase the tickets. If they can satisfy their want for tickets at a lower cost, they will have money available for refreshments and souvenirs. (This option will play directly into **Economic Puzzle Challenge, Part 2**.)

Economic Puzzle Challenge, Part 1

Lisa, Ben, and Justin are anxious to get to the NBA playoffs. But to get there, they have to weigh the costs and benefits associated with different ways of buying the basketball tickets. Are they ready to buy the best seats available for one of the biggest games of the season? Should one of them get up early and try to be first in line at the box office? Are there any costs they haven't considered? What will their "missed opportunity" be if they buy the expensive seats?

Think about these questions as you watch the video.

Decision Time

At the conclusion of the first part of the Puzzle Challenge, the following question appears on the screen.

What should they do?

Use the lines below or a separate piece of paper to mark your choice and to explain your answer. Then watch the video to see the consequences of your decision.

☐ A. Order from TicketMax.

_____

_____

_____

☐ B. Think about how much will be left for concessions.

_____

_____

_____

☐ C. Look into other ways of getting tickets.

_____

_____

_____

> ***"Even children learn in growing up that 'both' is not an admissible answer to a choice of 'which one?'"***
>
> **—Paul A. Samuelson, American economist**

Should Lisa, Ben, and Justin pay $30 each for good seats at the NBA playoffs?

For More...

Suppose you found out that Lisa, Ben, and Justin are big basketball fans who never miss a big game. Would this change your decision? Why or why not? Explain your thinking here or on a sheet of paper.

_____

_____

_____

Economic Puzzle Challenge, Part 2

Decision Time

The second part of the Puzzle Challenge has revealed the group's other options for buying playoff tickets. Remember, different types of markets (ways to buy tickets) will have different transaction and opportunity costs. Each method may also yield a different benefit or level of satisfaction—for example, how far the seats are from the basketball court. As you watched the video, did you catch the benefits and costs associated with different methods of buying tickets?

The video challenges you with another question:

Why so many ways to buy tickets?

Further Discussion

Ask students to respond to the question in **For More...** on this page. Have students share their ideas. *Possible responses are: If the group members were all big basketball fans who never miss an important game, then the benefit of three good seats together may be worth the added transaction cost of TicketMax seats.*

Remind students about Joanne, the fan of Hootie and the Blowfish (page 6). She incurred the transaction cost of driving 150 miles to a concert, and she was willing to buy tickets from the ticket service. Conclude the discussion by pointing out that concert promoters and team owners know all about "hard-core fans" and "fair-weather fans" and are willing to accommodate these different kinds of fans to sell more seats.

Economic Puzzle Challenge, Part 2

Option C of **Economic Puzzle Challenge, Part 1** played through the introduction to **Part 2**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 2

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Why so many ways to buy tickets?

Ask students to read **Decision Time** and to choose a response. Then swipe barcodes (page 14) for the options you wish to view.

A. Those running the event want to sell all the seats.

Analysis: Yes, the event sponsors try to accommodate buyers by providing different markets so that they sell more seats. Fans who want the certainty of good seats can use the ticket service. Buyers who are willing to incur the transaction cost of waiting in line for an average seat will choose the box office. Fans who develop a sudden desire to see an event may buy a ticket from a scalper. (This option will play directly into **Economic Puzzle Challenge, Part 3**.)

B. Buyers have different constraints.

Analysis: Yes, buyers do have different "constraints." Some people are very busy, so standing in line at the box office has a high opportunity cost. Buyers with more time may be able to stand in line to buy tickets. But this is only part of the answer—tickets are available in different ways because event sponsors try to accommodate these constraints so that they sell more seats.

C. Entrepreneurs, like scalpers, see profit potential.

Analysis: Scalpers are helping to meet a variety of buyer constraints, such as Ben's not wanting to buy a ticket ahead of time because he might have to work. The greater the number of buyer constraints that sellers can overcome, the more seats will be sold.

Use the lines provided below or a separate sheet of paper to check your choice and explain why you think it's the best answer. Discuss your response with the rest of the class.

☐ A. Those running the event want to sell all the seats.

_____

_____

_____

☐ B. Buyers have different constraints.

_____

_____

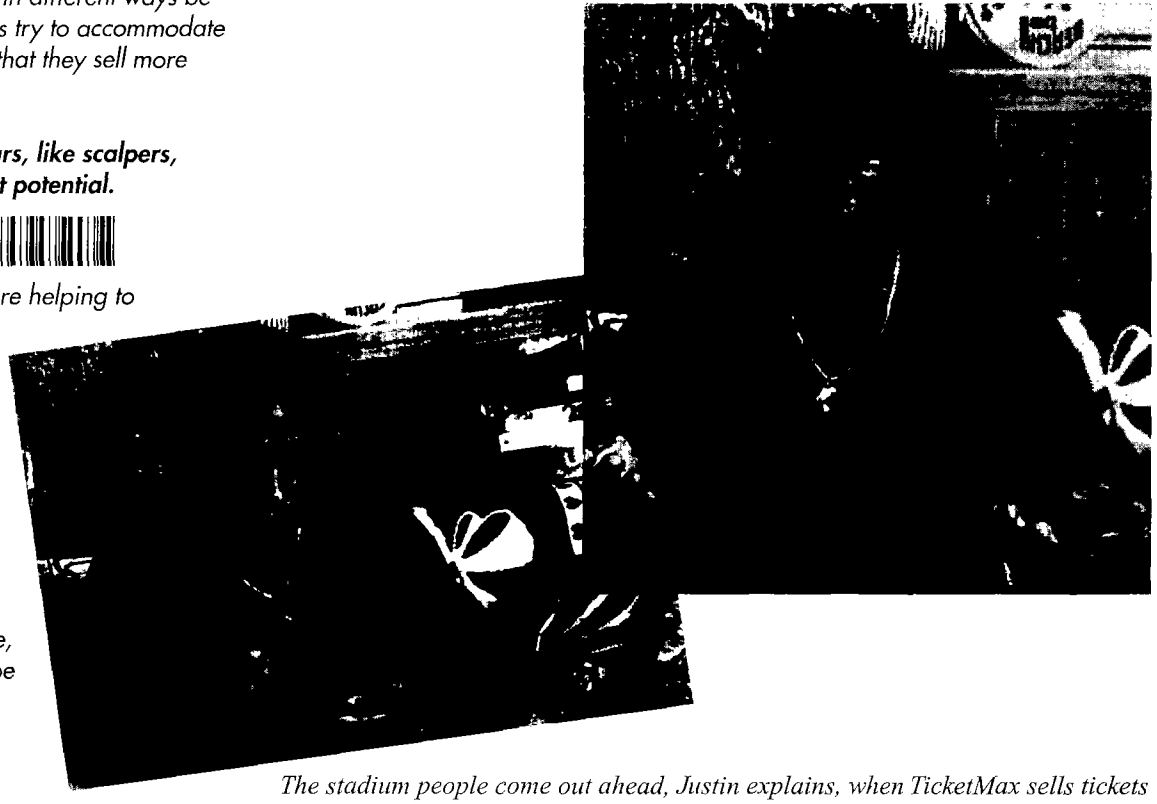
_____

☐ C. Entrepreneurs, like scalpers, see profit potential.

_____

_____

_____



The stadium people come out ahead, Justin explains, when TicketMax sells tickets for stadium events. They pay TicketMax a fee, and then TicketMax pays for the advertising and phone lines. The stadium ends up selling more tickets.

For More...

Why not have a "one-size-fits-all" market for tickets? Wouldn't it be easier and less confusing for buyers and sellers if they had only one method and one place to make transactions?

Discuss the pros and cons of this idea with your classmates.

Further Discussion

Ask students to respond to the question posed in **For More...** on this page. *Responses should in essence be: If there were only one way or one place to buy tickets, sellers would sell fewer seats. The "one-size-fits-all" market would not accommodate the diversity of buyers and buyers' constraints. If a ticket service were not available, busy people might not buy tickets. If people* ***had*** *to use a ticket service, students might be unable to afford tickets. And without scalpers, there would be no market for last-minute buyers at sold-out events.*

Economic Puzzle Challenge, Part 3

Decision Time

The saga of Lisa, Ben, and Justin continues. You've just watched them plot out three possible ways to purchase playoff tickets. They worked through the costs (with help from Justin on the calculator) and the benefits of each method. But if they wanted to be sure of getting seats, why didn't they simply pay $30 apiece for TicketMax seats and go have fun?

The added transaction cost of taking the bus across town may pay off if the seller is willing to negotiate and accept a lower price for the tickets.

The reason is that the three friends did not have all the information they needed to make the best decision, and they could not get the information in advance. For instance, what if the box office doesn't have three seats together? What if the line at the ticket window is too long? And what if Ben has to work. The method they choose to buy tickets will have to reflect not only what they know but also what they don't know about future costs and benefits.

Help them make the right choice by answering the question now on the screen. Use the lines on page 16 or a separate sheet of paper to select an option and to explain your answer.

What should they buy?

Compare your decision with those of your classmates, and then watch the video to see what Lisa, Ben, and Justin decide to do. Do you think they made the right decision?

Economic Puzzle Challenge, Part 3

Option A of **Economic Puzzle Challenge, Part 2** played through the introduction to **Part 3**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 3

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

What should they buy?

Ask students to read **Decision Time** and to choose a response. Then swipe barcodes (page 16) for the options you wish to view.

A. Three $15 tickets from box office, regardless of the seats

Analysis: Lisa does stand in line at the box office for an hour, but she cannot get three—or even two—seats together. Even though $15 seats are available, she does not buy them because the group wouldn't have wanted to sit apart. Their "want" is for reasonably priced seats together. They are not in the market for the least expensive seats with a poor view of the game.

B. Three $30 tickets from TicketMax

Analysis: This choice might be better as a last option if the group's other choices don't work out. At this point they do not appear ready to choose this option.

C. Four $20 tickets from newspaper and hope to sell extras

Analysis: This turns out to be the best option. The seller is anxious to make a deal and sells them four tickets for $15 each. (This option will play directly into **Economic Puzzle Challenge, Part 4**.)

☐ A. Three $15 tickets from box office, regardless of the seats

☐ B. Three $30 tickets from TicketMax

☐ C. Four $20 tickets from newspaper and hope to sell extras

The method they choose to buy tickets will have to reflect not only what they know but also what they don't know about future costs and benefits.

Economic Puzzle Challenge, Part 4

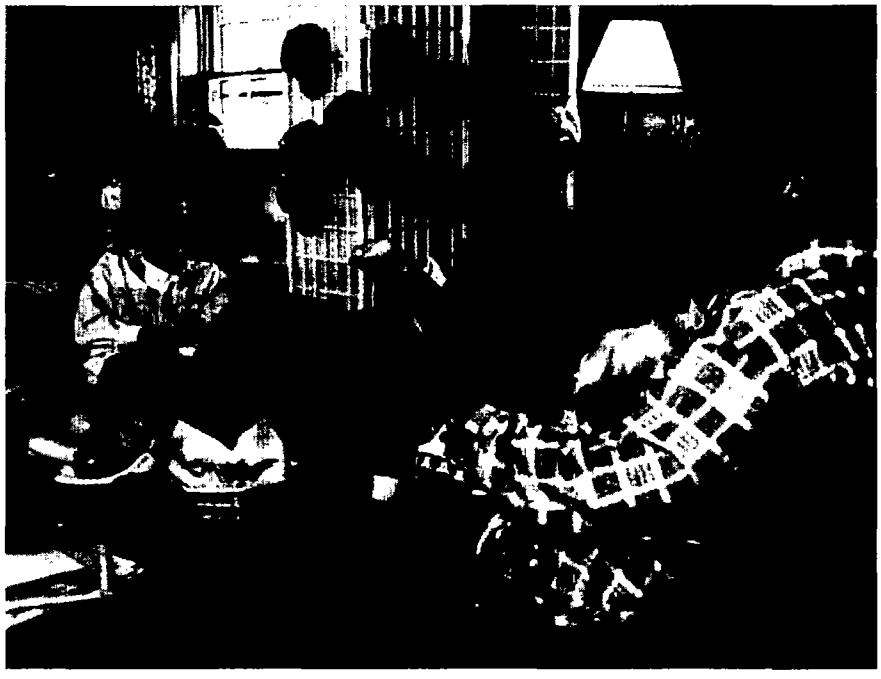
Option C of **Economic Puzzle Challenge, Part 3** played through the introduction to **Part 4**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 4

Economic Puzzle Challenge, Part 4

Talk This Over

Now you know if Lisa, Ben, and Justin felt satisfied with the method they picked to buy tickets. As you saw earlier, they considered the costs and benefits of three different ways to make the purchase. They decided to "pay" the transaction costs associated with answering a classified ad so that they would gain the satisfaction (benefit) of getting three good seats together. They were not willing to experience the transaction costs (and opportunity cost) involved with TicketMax because, as Lisa put it, "I want to see the game, but I don't know if I want to spend a whole lot of money on it." So it looks as if they really did their homework. But did their efforts pay off?



They were not willing to experience the transaction costs (and opportunity cost) involved with TicketMax because, as Lisa put it, "I want to see the game, but I don't know if I want to spend a whole lot of money on it."

The screen presents a series of three questions.

> What if Ben and Justin had arrived at the newspaper advertiser's house just as he sold the tickets to someone else?
>
> What would have happened if Ben had been called in to work?
>
> Why were Ben, Lisa, and Justin able to satisfy their wants for tickets efficiently?

Discuss these questions with your classmates.

For More...

Try to think of something else that could have happened to change the anticipated costs or benefits associated with the group's method of buying tickets? Share your thoughts with your classmates.

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

> **What if Ben and Justin had arrived at the newspaper advertiser's house just as he sold the tickets to someone else?**

Ask students to read the introductory paragraph of **Talk This Over** before they respond to the question, which is the first in a series of three. To view the remaining questions, swipe the following barcodes.

What would have happened if Ben had been called in to work?

Why were Ben, Lisa, and Justin able to satisfy their wants for tickets efficiently?

Use these three questions to stimulate class discussion. Remind students that economic decision making must rely on expected costs and benefits. If Ben had been called in to work, or if Ben and Justin had arrived too late to purchase the tickets from the newspaper advertiser, the outcomes would have changed the costs of the method they chose to buy tickets. The friends were able to satisfy their want for tickets efficiently because they were able to choose a market that offered the goods they wanted at a cost they were willing to pay.

Further Discussion

Have students read **For More...** on this page. Encourage them to think of other developments that might have altered the costs and benefits of the group's chosen method of buying tickets. *Possible responses are: If the group had been unable to use or sell the extra ticket, or if the tickets offered for sale by the newspaper advertiser had been for poor seats instead of good ones, the outcome would have changed.*

Video-based Activities

Have students read the opening paragraphs of **Talk This Over**. Then swipe the barcode at the top of page 19 to generate three more questions (which also appear in the *Student Guide*).

Talk This Over

Pizza, pizza, pizza...

The game is over. The seats were great. The price was right, and there was even money left over for food. But now the group had another decision to make: where to go for pizza.

In deciding where to buy playoff tickets, they weighed the costs and benefits of different methods so they could find the least costly way to see the game. In satisfying their hunger, they went through the

What's Your Favorite Topping?

Pepperoni...black olives...green peppers...mushrooms...extra cheese? Pizza was a $20 billion industry in 1994, with restaurants, grocery stores, and other pizza vendors doing their best to keep up with the demand.

Photo courtesy of Pizza Hut, Inc.

On a typical day, Pizza Hut, the world's largest pizza restaurant chain, will serve nearly 1.2 million pizzas to approximately four million customers.

Throughout the United States and in 88 foreign countries, Pizza Hut restaurants make pizza to order. Toppings range from sauerkraut and onion in Germany to spicy shrimp in Thailand.

The most popular toppings in America are pepperoni, Italian sausage, beef, mushrooms, and green peppers.

Meeting the American demand for Pizza Hut pizza for one year requires a tremendous quantity of ingredients:

- 700 million pounds of flour
- 320 million pounds of cheese (312 million pounds of that is mozzarella)
- 525 million pounds of fresh tomatoes
- 2.5 million hogs and almost 1.3 million head of cattle
- 50 million pounds of pepperoni

If you can't imagine how much 50 million pounds of pepperoni is, picture this: If you laid 50 million pounds of pepperoni slices in a line, it would create a path that would stretch around the world twice and then go to the moon.

—Information provided by Pizza Hut

same process. For example, they decided they definitely wanted pizza, not hamburgers.

At the end of the program, the screen will display the following questions.

What market decisions do they face?

How do the firms selling pizza facilitate voluntary exchange?

What are the opportunity and transaction costs?

Discuss these questions with the other students in your class.

The game is over....But now the group had another decision to make: where to go for pizza.

PUT IT TOGETHER

ANYBODY want a McVideo? Think for a moment about all the places to buy or rent a videotape. You can go to grocery stores, drugstores, department stores, superstores, or specialty video stores. And, yes, it's true, last year McDonald's sold more videotapes (movies) than any of these places.

Use the lines below or a separate piece of paper to explain why you think so many people might buy videos from a fast-food restaurant.

What market decisions do they face?

How do the firms selling pizza facilitate voluntary exchange?

What are the opportunity and transaction costs?

Use these questions to analyze the market for pizza. Encourage students to evaluate the costs (including transaction and opportunity) and the benefits of different methods of buying pizza. *Students should respond: Market decisions include where and how to buy the pizza. Firms selling pizza encourage voluntary exchange by offering pizza in a variety of ways. If the group members decide to eat at the restaurant, their benefit will be great pizza at a nice place. Their transaction cost will be the time spent waiting for their pizza to be served. The opportunity cost for Justin's friend will be the missed chance to study for a test.*

Side 5 Menu

Quit Instructions

CLOSING

Have students read **Put it Together** and explain in writing why they think buyers would choose McDonald's as their market to purchase a video. Remind them to use the concepts learned in the lesson to analyze this economic decision. *Possible answers: Buyers are already at McDonald's, so they have already incurred the transaction and opportunity costs associated with buying fast food. The extra cost of buying a movie with a Big Mac is low if the video is reasonably priced. Buyers choosing another market must include the associated transaction and opportunity costs. This explains the popular purchase.*

SUMMARY

Have students read **Net Gain**, including **Pick Your Own**. Then ask them to answer the questions at the end of this section.

NET GAIN

OKAY, now you know there are more ways than one to buy Christmas gifts, tickets, pizza, and videotapes. But what about the hundreds of thousands of other goods and services that people buy and sell every day? You got it. There are many ways to buy most of the goods and services people want.

Why are there so many markets for buyers and sellers to exchange goods and services? Because buyers want to satisfy their desire for goods and services, and sellers are anxious to provide that satisfaction for a price. Businesses know that if they are able to provide the goods and services that people want, and if they can provide them where and when people want them, they will sell more.

You want a cold soda during the big game, but you don't want to leave your seat and risk missing a play? Fine. Wait for a roaming vendor selling sodas. The stadium operators know that some buyers do not want to experience the opportunity cost of missing the play of the game in order to buy a drink. These potential buyers are likely to stay in their seats. The stadium is happy to accommodate these fans by providing vendors of all types. Why? Because they want to sell as many goods as possible.

You are shopping at the mall, and your stomach begins to rumble. If you aren't finished shopping, will you get in your car to look for a place to eat? Probably not. But you might consider a visit to the mall's food court for a quick bite. At the food court you will find everything from tacos to yogurt to a Chinese buffet. The mall operators know that most shoppers do not want to incur the transaction costs of leaving the mall to eat. If you leave, you might not return. They also know that hungry shoppers are not happy shoppers. Food courts will keep you at the mall longer, and they might even lure you to the mall in the first place. The mall is anxious to provide the type of food you want—and to provide it where and when you want it. Why? Because if you remain at the mall, the stores can make additional sales and higher profits.

Indiana Farm Bureau, Inc.

You can savor the sweetness of just-picked strawberries at pick-your-own farms.

As a buyer, you are always on the lookout for ways to satisfy your wants efficiently. As sellers, businesses, which are motivated by the desire to sell more and make a profit, are willing to satisfy your want through a market designed to appeal to you. The story on page 21 illustrates this fact.

Pick Your Own

Every season brings a big crowd out to Eckert's Orchard. In the spring, it's strawberries. In July, the heat doesn't discourage folks who are anxious to pick their own blueberries and blackberries—despite the stickers. During the fall festival, the orchard is so crowded that there's always at least one employee in the parking lot directing traffic. Families routinely wait 20 minutes in line to ride a wagon out to the field or orchard to pick plums, pumpkins, or apples. And in the dead of winter people trudge even farther—to Eckert's Reindeer Forest—to cut their own Christmas trees.

Check your understanding of the topics covered in this lesson by answering the following questions. Use the lines provided or a separate sheet of paper for your answers.

- If the per-pound price of pick-your-own fruit is only about 20 to 50 cents less than store-bought, why would people want to do the picking?

- Why would growers willingly endure the costs of wagons, extra employees, and inexpert pickers, as well as a lower per-pound (or per-tree) price than stores charge?

- For buyers, what are the costs of pick-your-own items? Is it ever an effective economic decision to spend a day in the field or the orchard?

Possible responses are:

Buyers who choose to "pick their own" are satisfying a want for the experience of picking, as well as the want for fruit, pumpkins, or Christmas trees. These pickers are purchasing an outdoor family activity, and for some this may be a more important benefit than the item they are picking. They are willing to pay the cost.

Growers endure the costs so they can sell more produce. Stores can sell only a given amount of a grower's output. Unsold and unpicked items will perish quickly. Offering pick-your-own markets is another way to satisfy consumer wants and to sell additional produce.

Significant transaction and opportunity costs are associated with picking your own produce. Driving to the orchard, waiting for the wagons, and searching for ripe fruit are all examples of transaction costs. The opportunity cost of picking will be whatever the buyer could have been doing during the two to four hours necessary to pick produce. It will be a wise economic decision to choose the pick-your-own market if the benefit of an outside activity and fresh produce is worth the costs. If all you want is a bag of apples—and you want them immediately—you will not choose this market.

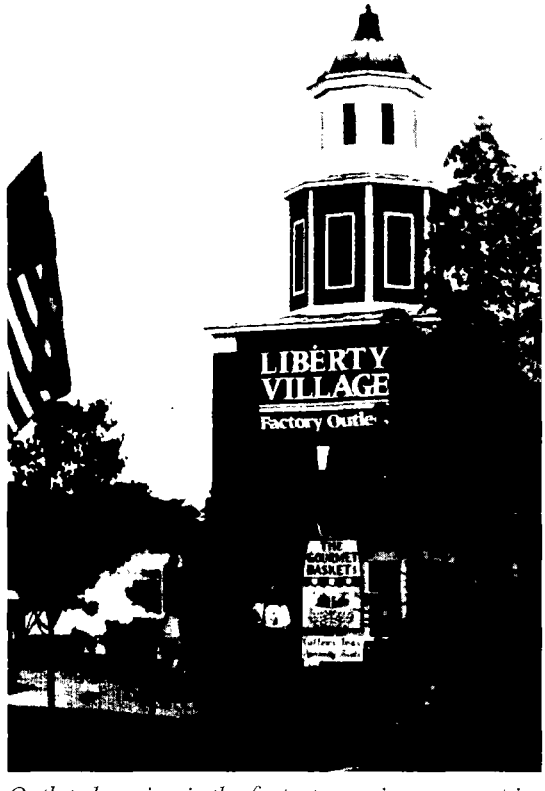
EXTENSION

Assign one or more of the activities in **Building on Success**. Encourage students to apply the concepts learned in the lesson and to refer to the **Econcepts** (page 3) as needed.

BUILDING ON SUCCESS

▶ THINK about your favorite places to shop—for clothes, CDs, food, cars, furniture, or anything else. Why do you like shopping at these places? What would someone have to do to get you to shop somewhere else? Prepare a brief presentation or a written report entitled "My Favorite Place to Shop and Why." Use the principles that you learned in "TicketMax" to analyze your choice.

▶ An increasing number of outlet centers dot the countryside. These malls are often located off interstates, sometimes 150 miles or more from a major metropolitan area. Prices at the outlets vary. Some items are priced 20 to 40 percent below retail, whereas others have little markdown. At many of the outlets, tour buses are a common sight, and there is usually a steady stream of senior citizens pouring into this market. Think about the following questions, and then answer them on the lines provided or on a separate sheet of paper.



Liberty Village Factory Outlets, Flemington, New Jersey, a property of Chelsea GCA Realty, Inc.

Outlet shopping is the fastest-growing segment in retailing today. Consumers spent over $10 billion at factory outlets in 1993.

- Why would world-famous designers and brand-name manufacturers sell their goods at a discount in these outlets?

_____

_____

_____

_____

Possible responses to the questions about outlet shopping include: Producers know they will be able to sell more if they provide goods and services through a variety of markets designed to satisfy wants and meet buyer constraints. They know some buyers will incur the transaction costs to

- Who shops in these markets, and why?

_____

_____

_____

_____

get a perceived bargain at an outlet. These buyers may be vacationing near an outlet or they may be retired and thus have a lower opportunity cost. Sellers also know that other buyers will pay a higher retail price in a downtown shop to avoid the transaction and opportunity costs associated with outlet shopping.

- If the prices are lower, why doesn't everyone shop at outlets?

_____

_____

_____

_____

- How much does shopping in an outlet really cost?

_____

_____

_____

_____

▶ If possible, visit an outlet center near you, and check out the stores. Find one related to your future career field or some other area in which you have an interest. For example, if you want to go into fashion merchandising, choose a clothing store; if you want to be a fitness instructor, a sporting-goods store might be a good choice. Try to arrange an appointment to interview the manager. (Be sure to explain that you're working on a school project—otherwise the manager might think you're a spy from another store.) Prepare a list of questions to ask during the interview. For example, ask how outlets differ from other marketplaces. Find out how locations are chosen. Get the manager's views on why outlets are successful. Ask about career opportunities in management....Then write a report on your findings, and be prepared to present it to the class.

▶ Choose a household good that you or a family member are likely to purchase in the future. Research different ways and places to purchase the item. Develop a brief oral report on what you discover, and be prepared to present the report in class. In each marketplace that you analyze, be sure to consider buyer constraints and satisfaction, as well as the total cost of buying the item.

To Buy or Not to Buy

"There was a time when a fool and his money were soon parted, but now it happens to everybody."

—Adlai E. Stevenson, American statesman

"Whoever said money can't buy happiness didn't know where to shop."

—Anonymous

ASSESSMENT

Two types of assessment are provided for you to evaluate students' comprehension and mastery of the material presented in this lesson.

ON YOUR OWN

Assign the short reading and the questions in this section. This material may also be used as a classroom activity.

QUALITY CONTROL

On Your Own

To demonstrate your knowledge of how markets function, complete the following activity.

Have you ever flown on an airplane? If so, how did you purchase a ticket the last time you flew? Why did you buy it that way? To check your understanding of markets, read the following newspaper article for information on the market for airline travel. As you read, think about how changes in the market may affect the way people obtain their tickets. Write your answers on the lines provided or on a separate sheet of paper.

TWA Latest to Cut Travel Agents' Fees

ST. LOUIS—Trans World Airlines, Inc., announced Wednesday it is joining other airlines in capping the commissions travel agents get on airline tickets. Local agents have responded with anger and fear.

"This could cause a very severe shakeout in the industry," said Doug Gardner, owner of Travel Design near West Port Plaza. Half his bookings are on TWA.

"The industry works on a very tight profit margin," Gardner said. "We are kind of like banks—a lot of money comes through, but we keep very little. There's not a lot of fat in this industry.

"What are we going to do—cut each employee's salary by 30 percent?" Gardner asked.

Major airlines would cap the agents' commissions at $50 on round-trip domestic tickets and $25 for one-way tickets. Currently, commissions are 10 percent of the cost of a ticket.

Business travel consultant Randy Coullom agrees the commission cap could prove a killer.

"For the local travel industry you are going to have companies going out of business left and right," Coullom said.

Just to write a single ticket generally will cost an agency $28 to $32, Coullom said. "That's the national average and that doesn't include your regular overhead," Coullom said. "If you tack that on to a $300 airline ticket, and the airline only gives you $50, you are not going to make it."

TWA joins the move started by Delta Airlines five days earlier to cap commissions to independent travel agents. The St. Louis-based air carrier also will lower its international ticket commissions to 11 percent of the ticket price from 15 percent.

"We waited as long as we could before imposing the cap. But we found no market advantage to keeping the higher commissions," said John McDonald, TWA spokesman.

McDonald conceded that some agents could be driven out of business. "But, then again, we have had a lot of airlines go out of business recently as well," McDonald said....

Most travel agencies make about 10 percent commission on a domestic ticket, with some international airlines' ticket commissions at 15 to 18 percent, Gardner said.

"But we lose a lot of money writing short [domestic flight] tickets," Gardner said.

He said some costs will have to be shifted to the consumer, but doing so could drive away customers.

Gardner said airlines such as Delta are suggesting that agents tack on service charges to make up the difference. But that is difficult because most people

prefer to use credit cards to pay for their flights.

Because the charges must go through a central bank clearing-house, Gardner said, charging a service fee will involve running the card through again. Moreover, Gardner warns, many air travelers would resent an added service charge.

—Adapted from an article by William Flannery, *St. Louis Post-Dispatch* (February 16, 1995); reprinted with permission of the *St. Louis Post-Dispatch*, ©1995

1. What are the different methods that people use to purchase airline tickets?

2. How can purchasing tickets through a travel agent minimize transaction and opportunity costs?

3. If travel agencies begin charging customers a fee to make up for the lost commissions, how will this affect the way consumers buy their airline tickets?

Possible answers are:

1. *Airline tickets may be purchased through travel agencies (by phone or in person) and from the airlines (by phone, at a ticket office, at the airport).*

2. *Travel agents can quickly provide information on flights and fares for all airlines, book a flight, and issue a ticket and boarding pass. These services have traditionally been provided at no additional cost to the ticket buyer because the airlines paid percentage commissions to the agencies.*

3. *Buyers willing to pay a fee to avoid the transaction costs of calling several different airlines will continue to use travel agents. Other buyers may consider a different market, such as the ticket counter at the airport (which may involve waiting in line) to avoid the service charge.*

In Class

The following questions should be answered while you watch a special section of the videodisc that your teacher will play for you. Write your answers on the lines provided or on a separate sheet of paper.

1. Many types of markets exist for the exchanging of the same good or service. Tickets can be purchased through a ticket service, from a scalper, at the box office, from a friend, etc. How do transaction costs influence how much exchange occurs in different markets?

2. Exchanges in markets usually involve money. These people in line are waiting to exchange money for tickets. How does money affect the transaction costs of the exchange?

3. Use the concept of opportunity cost to explain why a student may be more likely to stand in line waiting for tickets than a bank president would.

Assessment-Track Questions

Besides appearing in the *Student Guide*, the questions under the heading **In Class** are contained on a special assessment track of the videodisc for this module. Using the appropriate disc side, you can access each question by swiping its bar-code. Each question is presented as a voice-over to part of a video program that students previously watched. The video will provide students with valuable cues, enabling them to generalize previously learned material to new situations.

Assessment Question 1

1. Transaction costs discourage exchanges from occurring. When transaction costs increase, fewer exchanges will occur. If they go high enough, they may even prevent the exchange altogether.

Assessment Question 2

2. The use of money reduces the transaction cost of the exchange. Without money, each market exchange would require some type of barter transaction. A barter system requires a "coincidence of wants" where both parties to an exchange must specifically want what the other has. Transaction costs would be high in every exchange! Under a barter system, exchanges would be much more difficult and much less common. Money eliminates the "coincidence of wants" problem. Money is generally accepted, and it is exchanged when people sell and buy things from one another, in every market.

Assessment Question 3

*3. Basically, people spend their time in two ways: work and leisure. Leisure is defined as **all** time not spent at work. (School, an investment in human capi-*

4. When buyers buy tickets, they incur transaction costs such as driving to the scalper, contacting the box office, or waiting in line to obtain the tickets. What are some transaction costs that the scalper must bear?

5. Suppose Lisa had a final exam the morning after the game. What happens to the opportunity cost of going to the basketball game? Could this influence her decision?

6. Are you experiencing an opportunity cost right now? What is it?

people.) Waiting in line for tickets to an entertainment event, though not fun, is still a leisure activity. Standing in line represents a higher opportunity cost to the banker because he or she could have been using this time to conduct important financial business that makes a lot of money; however, the average 17-year-old is unlikely to engage in high-powered money deals.

Assessment Question 4

4. The scalper faces transaction costs for providing the market. There may be phone and fax services, the cost of acquiring information about upcoming events and market prices, time spent standing in line (or paying others to do so), professional relationships, and the opportunity cost of the scalper's time. Moreover, if scalping is illegal, the risk of spending a night in jail could be a big transaction cost.

Assessment Question 5

5. If Lisa has a final exam, the opportunity cost of her standing in line would likely be higher than if she didn't have the exam. By standing in line for tickets instead of studying, Lisa might receive a lower score on the exam. This certainly should influence her decision.

Assessment Question 6

6. Yes. Every decision has an opportunity cost. Students who are watching this video now may actually prefer to be doing something else. Whatever activity a student would rather be doing is his or her opportunity cost of attending class.

SIDE 5
GRAPHICAL DATABASE BARCODES

(Use "step still" function or barcodes below to advance within categories.)

Step Back

Step Forward

Elasticity

Role of Profits

Product Markets

Consumer Behavior Theory

Production Theory

Foreign Exchange Markets

Human Resource Market

Nonhuman Resource Market

Aggregate Supply & Demand

Loanable Funds Market

SIDE 5
TEACHER-TRACK BARCODES

Pollution and Efficient Markets

Externalities

Pollution—Who should pay?

Negative Externalities

ECONOMICS® at Work

Module 2, Lesson B

THAT'S A LOT OF TRASH!

ECON BRIEFING

DISPOSABLE dishes. Disposable razors. Disposable contact lenses. Disposable cameras. Use them once and throw them away.

Have you ever wondered what happens to the thousands of bottles, cans, candy wrappers, and margarine tubs that get thrown away every day? When they leave your neighborhood in a garbage truck, where do they go next? Who pays the price for the convenience of throw-away aluminum cans and individually wrapped Twinkies? Who bears the cost of disposing of the disposables?

The cost of trash disposal has become very important in modern society. When you buy an ice-cream bar, you are paying both for the part you eat and for the part you throw away—the wrapper and stick. You may also be paying to dispose of the wrapper and stick. Are you willing to pay the full cost of your consumption of the ice-cream bar? Studying "That's a Lot of Trash!" will help you understand the significance of this question and the importance of your answer.

WHAT YOU'LL LEARN IN THIS LESSON

- An exchange involves costs other than the price of the good or service.
- When transaction costs are reduced, more exchange will take place.
- Market failures occur when a third party (not the buyer or seller) pays part of the cost of production or consumption.
- Governmental policies attempt to correct market failures.
- Implementing governmental policies can be costly.
- Governmental programs may be justified if the expected benefit outweighs the expected cost.

2 CLASS PERIODS

Materials

This lesson uses the videodisc (or videotape) program **That's a Lot of Trash!** To complete the activities, students should have the following items: colored pencils, pens, or markers; samples of various types of product wrappers or packaging; calculators; and computers with word-processing software.

INTRODUCTION

This lesson presents the concept of third-party costs and negative externalities. Students learn that external costs are those that are paid by a party other than the buyer or seller in an exchange. The concept of governmental regulations is introduced, and students are asked to suggest what degree of reliance on governmental policy is desirable in a market economy. The activities encourage students to examine problematic situations and to formulate opinions about solutions to the problems.

GOALS

Students will be able to demonstrate their understanding that scarce resources are used for the transportation and merchandising of goods, that transporting and merchandising products may create third-party costs, and that the solution of third-party problems involves the examination of alternatives.

A Taste of Trash

EVERY year, to celebrate the Fourth of July holiday, the Windy City hosts its "Taste of Chicago." Hundreds of restaurants set up outdoor stands in Grant Park and sell samples of their famous dishes, from sushi and calamari to pierogi and tacos to ribs and homemade ice cream. The aromas of meat and vegetables cooking over hot charcoal fill the air. Millions of residents and tourists flock to the lakefront to enjoy the food, music, and fun.

Then, as soon as the festival ends, thousands of new people appear on the scene. They carry brooms, shovels, trash bags, and buckets. They work from midnight to dawn cleaning up an estimated 515 tons of garbage, including approximately 4,400 plastic cups; 4,100 aluminum cans; 11,000 glass containers; and more than 8,000 plastic water bottles. It costs about $365,000 to clean up the mess. This amount includes workers' salaries, fuel for garbage trucks, and the cost of cleaning supplies.

PAYBACK

As you drag your family's garbage to the curb each week, do you ever say to yourself, "Where does all this junk come from? How do we make so much garbage?" This lesson will open your eyes and ears and even your nose to the reality of trash.

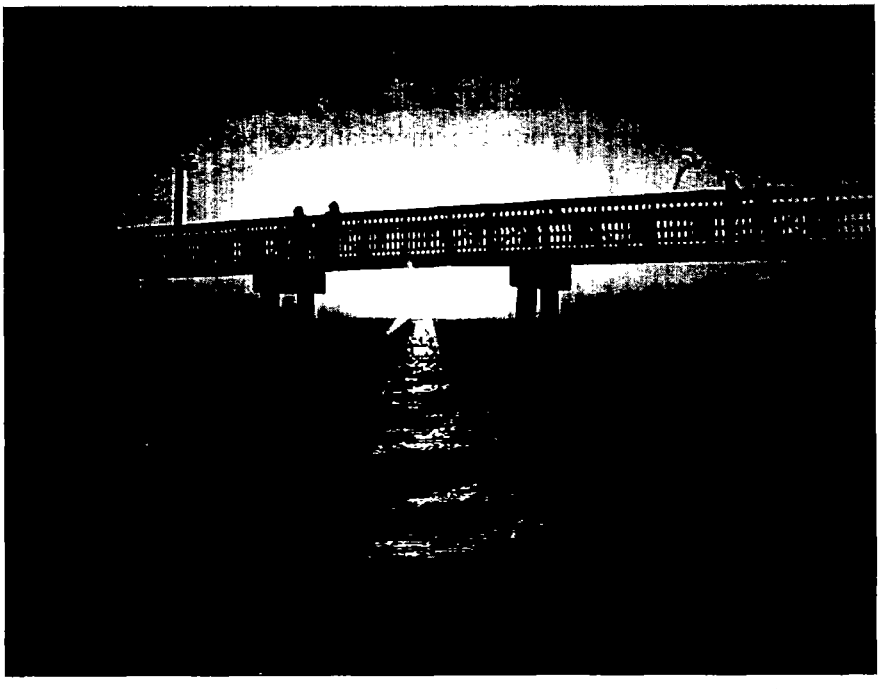
What's the cost of all the trash that people throw away? Who pays for it? Where does all the junk go? What about pollution? Should the government set regulations on trash disposal? Who should pay for the cleanup?

This lesson will help you understand the economic impact of trash. The decisions that you and others make on how to deal with trash and pollution will affect the quality of your lives today and tomorrow. By reducing the amount of trash you produce, you can make your community a cleaner, healthier place to live. Your ability to conserve resources instead of wasting them will also increase your value to future employers.

OBJECTIVES

Upon completing this lesson, students will be able to:

- identify scarce resources used for transporting and merchandising goods
- list the costs created by some transportation and merchandising practices
- define the benefits provided by some transportation and merchandising practices
- use a grid to complete a five-step decision-making process
- evaluate the advantages and disadvantages of certain packaging practices
- suggest alternatives for dealing with the costs created by some transportation and merchandising practices
- define "third-party costs"
- analyze the desirability of governmental policies regarding third-party costs
- examine market solutions to problems of negative externalities



Since 1992, almost 40 percent of the nation's rivers, lakes, and streams have become too polluted to use for fishing, swimming, boating, or other recreational activities, according to the National Water Quality Inventory compiled by the Environmental Protection Agency.

Econcepts

economic efficiency—a situation that occurs when the benefits of economic action outweigh the costs

externalities—positive or negative side effects that result when some of the benefits or costs associated with the production or consumption of a product "spill over" to third parties other than the direct producers and consumers of the product

market failure—a situation that occurs when there is inadequate competition, lack of access to reliable information, resource immobility, externalities, and the need for public goods

third-party costs—costs paid by a party who is neither the buyer nor the seller of a product

transaction costs—costs, other than price, associated with the purchase of a good or service

POWER UP

WHEN you walk through the aisles of an office-supply store, you see pens, tape, tablets, markers, computer disks, and hundreds of other items. Many of them are sealed in plastic see-through packages that hang neatly on pegboard. When you buy a pen, you remove the transparent wrapper and throw it away.

Manufacturers must pay the costs of packaging their products. These costs include the paper or cardboard or shrink-wrap, the ink used in printing the labels, the labor involved in assembling the package, and even the extra step of punching a hole in the cardboard so that the package can hang from the pegboard in the store.

All Wrapped Up

Containers and packaging account for 32 percent of all material in America's landfills, according to the Environmental Protection Agency.

Why are manufacturers willing to pay these costs? Why not just ship the pens to the stores in bulk, without wrapping each one?

To answer these questions, think about **economic incentives**. You respond to economic incentives when you shop around for the best price

Lesson Description

This lesson focuses on trash to illustrate how negative externalities create third-party costs. Students in a high school classroom discuss concepts such as input costs and transaction costs, as well as third-party costs. They use their discussion of trash to develop ideas about undefined property rights, pollution-control regulations, and governmental policies.

Before showing the video, encourage students to think about how much trash they create in one day.

Key Terms

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 29–30). Encourage them to suggest what kinds of trash (and how much) are in the classroom wastebasket. Then carefully remove the items from the wastebasket and place them on a table or large desk. Remind students that what they see is just a single day's worth of trash. Ask them to estimate how much trash is collected in the whole school building during one day.

Explain that specialized classrooms result in specialized trash. Divide the class into groups, and ask each group to speculate about the trash they would find in the following classrooms: biology lab, art room, computer lab, math class, chemistry lab, home-ec room. Allow time for brainstorming and discussion about how packaging and wrappings might indicate in which classroom specific trash was found. Students should suggest which classes generate the greatest amounts of specific kinds of trash—for instance, plastics, paper, food products, etc.

Mainly for fun but also as practice in deductive reasoning, you may wish to have students make up "Trash Cans of the Rich and Famous" puzzles. Have some students create lists of items that might be found in the garbage of a famous person or fictional character; then have the other students try to identify who produced the garbage (for example, oil paints, pieces of canvas, smock, an ear—Vincent van Gogh).

Introduce the **Econcepts**, and give contextual examples of each. Remind students that these terms will be used throughout the lesson and that they should refer to the list whenever necessary.

Ask students to read the first four paragraphs of **Power Up** and to think about the costs included in the prices of items they buy in stores. Discuss the costs involved in transportation and merchandising. Explain that manufacturers base decisions upon expected costs and benefits.

Have students read **These Boots Were Made for Working**. Explain the five-step decision-making procedure whose acronym is **PACED**: (1) State the **P**roblem; (2) List **A**lternatives; (3) Define **C**riteria; (4) **E**valuate Alternatives; (5) Make a **D**ecision.

of something you want to buy—perhaps a mountain bike. You're willing to use a scarce resource, your own time, to read newspaper ads or consumer magazines. You might even find that the best deal is at a store 50 miles from your home. You may use other resources—gas for your car, highways that charge tolls—so that you can drive the 50 miles and get the best price. Why would you be willing to do this?

The answer is **economic efficiency**. When the benefits of a decision outweigh the costs, then the decision is an efficient one. The following story provides another example of this principle.

These Boots Were Made for Working

José needed a pair of high-quality, heavy boots. He was about to start his new job as a construction worker. He asked several of his friends where they had bought their boots, and they gave him all kinds of suggestions on what kind to buy and where to buy them. Finally he decided on a different approach—"I'll do some research," he said to himself.

He made a list of the qualities that he wanted the boots to have:

- genuine leather
- cushioned insoles
- steel toes
- double stitching
- waterproof (or at least water-resistant)
- black
- less than $100
- available at nearby store

Looking over the list, he realized that some of these criteria were more important than others. Steel toes, for example, were more important than double stitching; color was the least important criterion. He decided to rank each item on a scale of 1 to 5.

His next step was to locate stores that sold the kind of boots he wanted and to check their prices. He did not want to drive too far, because the cost of gas and the value of his time might cancel out any dollar savings. He identified five stores that carried boots with the features he wanted at a price he could afford: Brian's Shoe Store, The Shoe Barn, Fancy Feet, Shoe Circus, and Clodhoppers.

Then he made the following chart (the numbers in parentheses are the rankings he gave each of his criteria).

	Brian's	Shoe Barn	Fancy Feet	Shoe Circus	Clodhoppers
leather (4)	4	4		4	4
cushioned insole (4)	4	4	4	4	4
steel toe (5)	5		5	5	5
double stitching (4)	4	4			4
waterproof (5)	5		5		
black (1)		1	1	1	1
TOTALS:	**22**	**13**	**15**	**14**	**18**
price (3)	$85	$70	$95	$60	$85
miles from home (2)	20	10	10	15	20

If you were José, which store would you choose? Indicate your choice on the lines below or on a separate sheet of paper, then give some reasons for your decision.

Demonstrate how José followed a plan as he made his decision about buying boots, and ask students to predict which store José would choose. *They should respond along these lines: José would choose Brian's Shoe Store, because it has a higher value than the other four shops; its price meets the criterion of being less than $100, and it is just a few miles farther than The Shoe Barn and Fancy Feet, the closest stores. Clodhoppers, whose value is next highest, equals Brian's in price and distance, and so Brian's is again the logical choice.*

José based his choice on the benefits he expected to get from a good pair of boots, and he also based his choice on the costs he would have in traveling to the store and paying for the boots.

Like José, the office-supply manufacturers mentioned at the start of this section examined the costs and benefits of cardboard and plastic wrapping materials before they decided to use them. Why were they willing to pay the extra cost of cardboard and plastic packaging? Why wouldn't they choose to ship pens loose, without special wrappings? What do you think the benefits of the packaging are? Express your ideas on the following lines or on another piece of paper.

Ask students to speculate about why manufacturers choose to pay the cost of plastic- and cardboard-wrapped office supplies instead of selling them loose and unwrapped. *Students may respond: The benefits of packaging include visual appeal for the buyer, ease of display in the retail store, uniformity in shipping and handling, distinctive brand recognition, less loss from damage, and protection from shoplifting.*

Producers have reasons for their choices. A manufacturer of ballpoint pens will not choose to pay costs if he does not expect to receive benefits that outweigh those costs. A boot producer will not spend

VIDEO CORE

Ask students to read the introductory paragraph of **Take a Closer Look**. The first video segment introduces the idea that trash is an everyday part of everyone's life. From day-care centers to classrooms to the family kitchen, trash is everywhere.

INTRODUCTION TO THE VIDEO

Have students read **What You'll See on the Screen**. After they finish reading, invite them to list at least 10 packages that they have discarded in the past few days, either at home, work, or school. Encourage students to share their responses. Ask the following questions. What was the largest package that anyone discarded? The smallest? Which product's packaging was mentioned the most? Which was the most unusual package?

Remind students that this lesson focuses on trash, a topic with which they are quite familiar. Have them reflect on their own experiences as they read about and view the examples in this lesson.

VIDEO-BASED ACTIVITIES, PART 1

Ask students to read the paragraph that begins **Talk This Over** on this page. Then start the videodisc (Side 5), and swipe this barcode to play:

That's a Lot of Trash!
(introductory segment)

The video will pause on this question (which also appears in the *Student Guide*):

Is all that packaging necessary? Why?

Have students list examples of packaging that they consider overdone or unnecessary. Invite them to suggest other, more efficient, packaging. When students are finished writing, encourage them to share their answers in an informal, whole-class discussion. Encourage creative, innovative suggestions by asking them to "think of a new kind of package that no one else will think of."

$80 for inputs such as leather, rubber, steel, nylon laces, and workers' salaries if she expects buyers to pay only $75 for her product. That would not be good business, and it wouldn't be too smart either.

TAKE A CLOSER LOOK

A PRODUCER'S cost of production includes the cost of packaging and the cost of transportation. Milk has to be put into containers and shipped to supermarkets. Shaving cream must be put in cans and delivered to drugstores. Disposable diapers are packed in boxes or bundled in plastic and sent all over the country.

WHAT YOU'LL SEE ON THE SCREEN

The opening segment of "That's a Lot of Trash!" shows that product packaging accounts for a large portion of your garbage. Egg cartons, detergent boxes, CD wrappers, shampoo bottles, soup cans...all these things may appear in your own trash sometime this month. In the Economic Puzzle Challenge sequence, you will see students discussing some of the problems associated with disposable packaging and arguing about who pays for third-party costs.

TALK THIS OVER

In your trash can at home, you probably have an item that was part of a package at one time. Maybe it's a gum wrapper, a lipstick tube, or a deodorant container. Sometimes the packaging includes a container inside a container—an audiotape in a music store is encased in tough, heavy plastic to prevent theft, then there is a layer of tightly fitting cellophane, and finally there's the plastic case that holds the tape. The screen asks:

Is all that packaging necessary? Why?

Think of some products that seem to be "overpackaged." Try to come up with other ways that the products could be sold—ways that would eliminate some or all of the wrapping. Write your ideas on the lines below or on a separate sheet of paper, and then share ideas with your classmates.

For More...

Many years ago, when people shopped for rice and oatmeal, nails and hinges, even dog biscuits and chicken feed, they scooped the goods out of big barrels at a general store. The proprietor weighed each item to determine the cost. Often the buyer had to provide his own bag or wrapper to carry the product home.

Some stores still offer this kind of service. Bulk candy is often sold in supermarkets or in stores at the mall. Bulk seasonings, such as cinnamon and oregano, are sold at other shops. The advantage of buying bulk items is that their prices are usually lower. Why? Because there is less packaging cost.

Courtesy of the Indiana Room, Monroe County Public Library, Bloomington, Indiana

Sugar, flour, fruits, and vegetables were among the many items available in bulk from Marts Cash Store in Washington, Indiana.

Of course there are disadvantages too. Use the chart below (or draw one on another piece of paper) to list some advantages and disadvantages of specialized packaging for the following items. Then suggest alternative methods of packaging. Add a fifth product to the chart, and then compare your results with those of your classmates.

	Advantages of current packaging	Disadvantages of current packaging	Alternative method of packaging
Eggs	*Safe; protective; uniform*	*Nonbiodegradable; prevents purchase of single eggs*	*Returnable cartons*
Scouring pads	*Bright and attractive; easy to stack*	*Takes too much space*	*Individually wrapped items*
Motor oil	*Safe; nonbreakable*	*Hard to stack; nonbiodegradable*	*Refillable containers*
Toothbrushes	*Sanitary; easy to display*	*Takes too much space; wastes too much packaging*	*Bristles only contained in shrink-wrap*

Further Discussion

Ask students to read **For More...** on this page. Have them work in pairs to complete the chart in this section. The column headed "Alternative method of packaging" should elicit unusual and diverse responses. Encourage imaginative suggestions. (Note: The chart that appears in the *Teacher's Guide* contains possible responses.)

After students have discussed their answers, encourage them to complete the chart with a fifth product. Invite unusual responses, and provide reasonable support.

Video-based Activities, Part 2

Have students read the two paragraphs that introduce **Talk This Over** on this page. Then swipe the barcode to continue playing:

That's a Lot of Trash!
(introductory segment, continued)

The video will display another question (which also appears in the *Student Guide*):

Are any third-party costs created by the use of cloth (nondisposable) diapers? If so, what are they?

This question requires students to brainstorm ideas about costs that are not paid by the buyers or sellers of cloth diapers. Remind students to analyze the procedures that parents or diaper services must use to clean and sanitize diapers for reuse. As students respond to the question, encourage them to come up with as many third-party costs as possible. *They may respond: water polluted by detergents, excess fuel consumption by washers and dryers, transportation costs of trucks used to pick up and deliver diapers.*

Talk This Over

Third-party costs are those that are not paid by either the buyer or the seller of a product. When peanut butter is produced, the manufacturer pays for inputs: the peanuts, oil, salt, sugar, and labor. The buyer pays some or all of these costs in the purchase price of the peanut butter. So where are the third-party costs?

When the jar is empty, it gets thrown away. It may become garbage in a landfill that is polluting the local water supply. The people who live near the landfill may have to purify their drinking water with special filters or other water-treatment systems. They did not eat the peanut butter, yet they are incurring a cost. Disposable diapers pose the same kind of problem. The screen asks:

> Are any third-party costs created by the use of cloth (nondisposable) diapers? If so, what are they?

Write your ideas on the lines below or on a separate sheet of paper, then discuss your views with the rest of your class.

The day-care center where Lea works uses about 40 disposable diapers a day.

For More...

Steel mills cause water pollution when their waste materials flow into rivers and streams. The people who live near the water are the third parties. They did not cause the pollution, but now they can't drink the contaminated water, and they can't go swimming in the streams. The value of their property may also decrease because of the unhealthy conditions.

The mill operator does not pay the cost of these people's losses; the buyer of steel does not pay the cost either. Furthermore, because the producer does not pay the full cost of production, it is able to offer its steel at a lower price. The producer sells more steel because the buyer is willing and able to purchase more at the lower price.

In this situation, steel tends to be overproduced, because neither the producer nor the consumer pays the full cost of production. If producers were required to pay for part of the cleanup, they would either have to raise their prices or produce less—so as to pollute less. If consumers of steel were responsible for part of the cost of cleanup, they would face higher prices and would consume less. Because neither the producer nor the consumer pays the full cost of production, part of the cost falls on third parties.

> ***"For the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death."***
>
> **—Rachel Carson,**
> ***The Silent Spring* (1962)**

Third-party costs are also called **negative externalities** or **external costs**, because they are outside the exchange between buyer and seller.

Because the buyer and seller are not responsible for the total cost of production, sometimes the government steps in with regulations. With your classmates, discuss some procedures that the government might enforce to make sure that producers and consumers pay the cost of cleaning up pollution. Use the following lines or another sheet of paper to record your thoughts.

Further Discussion

Ask students to read **For More...** on this page. Explain that third-party costs are also called negative externalities or external costs, because they are not paid by the buyers or sellers involved in an exchange. Then explain that, in a market economy, property rights determine ownership and that, in the absence of clear property rights, resources are often misused.

The information about the steel mill in the *Student Guide* focuses on the misuse of rivers as dumping places for the mill's waste materials. Ask students to suggest solutions to the problem of third-party costs. Emphasize that the government sometimes finds it necessary to regulate situations in which property rights are not clearly defined.

After students have written their ideas about governmental policies, ask them to share their ideas with one another. *Possible responses: The government might tax, fine, inspect, or otherwise limit the amount of pollutants an industry is allowed to emit. Markets for the exchange of rights to pollute could be established.*

Economic Puzzle Challenge, Part 1

Before swiping the barcode, ask students to read the introductory paragraphs to **Economic Puzzle Challenge, Part 1**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 1

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*):

Which activity is most likely to produce pollutants?

Help students analyze each of the possible responses. Then swipe barcodes for the options you wish to view.

A. Transporting diapers by truck, ship, or plane

Analysis: Some pollutants are the result of fuel emissions. Other types of pollution occur when tires wear out and leave shredded rubber on highways. Ships may spill oil into oceans and rivers.

B. Packaging disposable diapers

Analysis: The packaging keeps diapers sanitary and protected, but it is then discarded. The plastic and paper used to make and package disposable diapers become trash—unless the materials can be recycled for other uses.

C. Washing cloth diapers

Analysis: The wastewater goes through a water-treatment plant, but the contaminants end up as waste. Certain detergents don't break down; they become pollutants that contaminate land and water.

Economic Puzzle Challenge, Part 1

This Puzzle Challenge explores the problem of trash. The modern world generates mountains of trash every day, and it costs piles of money to move it from one place to another—from sidewalks and driveways to incinerators and landfills.

In the video, the students in Lea's class seem to agree that things as different as microwave popcorn and diapers impose some costs on third parties. Is there any economic activity that does not impose such costs? Is zero pollution desirable? Think about these questions as the students in Lea's class thrash it all out.

Decision Time

At the end of the first part of the Puzzle Challenge, you see this question on the screen:

Which activity is most likely to produce pollutants?

Use the space provided below or a separate sheet of paper to pick a response and to explain your choice. Then watch the video for the results of your choice.

☐ A. Transporting diapers by truck, ship, or plane

_____

_____

_____

☐ B. Packaging disposable diapers

_____

_____

_____

☐ C. Washing cloth diapers

_____

_____

_____

Taking Out the Trash

In 1993, Americans generated approximately 207 million tons of municipal solid waste—about 4.4 pounds per person per day. After materials were sorted for recycling and composting, discards amounted to 3.4 pounds per person per day.

—Environmental Protection Agency

Clean water is used to wash cloth diapers. The wastewater must then be recycled through a water-treatment plant. Sludge ends up as waste, and certain types of detergents and chemicals that don't break down often contaminate land and water.

For More...

Humans have lived on earth for thousands of years. Was pollution always a problem? Is the problem getting worse today? Why hasn't the world's ecological system been able to absorb wastes and renew itself? Read the following article for some ideas about why pollution seems to be getting worse. Then discuss these points with the other members of your class, and try to suggest additional examples to support the ideas.

Progress, Prosperity, and Pollution

First, the population density of the earth has increased. There may have been garbage during the first Fourth of July celebrations in the 1780s, but the population of the United States was only about four million compared to more than 250 million today. More people mean more trash.

Second, people have higher incomes. This added prosperity allows Americans to own more than 176 million cars and trucks, whose emissions pollute the air. What's more, about 11 million of them turn into junkmobiles every year.

Third, technology, though it enhances production and allows consumers to choose from among dozens of brands of products, also creates problems. Disposable containers made of long-lasting materials, such as plastic, fill up landfills. The

Further Discussion

Ask students to read the entire **For More...** section, which begins on this page. The article **Progress, Prosperity, and Pollution** suggests reasons why the ecosystem is no longer able to absorb pollutants as it had done effectively for thousands of years. An example of each reason is given. When students have finished reading, invite them to suggest an additional example for each reason.

They should respond along these lines:

Population density—*Areas of the world, such as Australia, that have less dense populations continue to have low pollution levels; areas of the United States, such as Montana, that have sparse population also have less pollution.*

Higher incomes—People with higher incomes own more labor-saving, energy-using devices, such as power tools, electronic games, and high-performance cars. These use more energy, and some create more pollution.

Technology—*Advancements in electronic gadgetry make products obsolete more quickly. Old products are more quickly discarded for new ones.*

Incentive for profit—*Producers will continue to pollute as long as benefits outweigh costs. Even fines for polluting are ineffective if they are not high enough to act as a disincentive to pollute.*

> ***"The outgrowth of conservation, the inevitable result, is national efficiency."***
>
> **—Gifford Pinchot, *The Fight for Conservation* (1910)**

ingredients that enable detergents to wash "cleaner, whiter, and brighter" do not recycle easily. All of these disposables add up to more than four pounds of trash per person per day in the United States.

Fourth, the incentive for profit leads manufacturers to produce more when they do not pay the cost of pollution cleanup. A producer could try to act responsibly and not dump waste into nearby streams. That would increase production costs, because the company would have to pay to have its waste sent somewhere else. If the company did not raise its prices to cover these new costs, its profits would fall. Therefore, the payoff for the company that tries not to pollute is lower profit. That's not a very good economic incentive.

—Adapted from Campbell R. McConnell and Stanley L. Brue, *Economics: Principles, Problems, and Policies*, 11th ed. (New York: McGraw-Hill, 1990); reprinted with permission of McGraw-Hill, Inc.

Economic Puzzle Challenge, Part 2

Lea's class has been talking a lot about incentives and costs and third parties. They know that when the buyer's price covers the full cost of production, the market works efficiently. On the other hand, pollution and third-party costs are indications of market failure.

But which costs do buyers really pay? When you buy a frozen pizza, does the price include every input? Are you paying for the cheese, pepperoni, onions, plastic wrapper, and cardboard tray?

As you watch Lea's class in the video, think about who pays the input costs.

Decision Time

The video pauses on a screen asking:

Which input costs would be paid by the buyer?

Discuss the three options with your classmates, then mark the choice you believe is best. Write your answer in the space below or on another piece of paper. Be sure to explain the reasons behind your decision. Then watch the video for more information.

☐ A. Fuel and transportation

_____

_____

_____

Economic Puzzle Challenge, Part 2

Before swiping the barcode, ask students to read the paragraphs that introduce **Economic Puzzle Challenge, Part 2**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 2

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*):

Which input costs would be paid by the buyer?

Assist students in analyzing the three possible responses. Then swipe barcodes for the options you wish to view.

A. Fuel and transportation

Analysis: The market price that buyers pay includes all direct costs incurred by the firm, including transportation costs. Firms choose to use scarce resources only when the marginal benefit equals or exceeds the marginal cost. Since firms must pay to use scarce resources, they will try to use as few as possible in order to keep their costs down. The cost of scarce resources is built into the price of the product.

☐ B. Maintenance of roads and highways

_____

_____

_____

☐ C. Trash disposal

_____

_____

_____

For More...

Because some of the cost of garbage and pollution cleanup is a third-party cost, the government imposes regulations that require companies to pollute less. When producers were challenged to make cars that cause less pollution, gasoline that contains no lead, and coal that has less sulfur, they developed techniques that accomplished these goals.

In many cases, correcting the problem meant higher production costs. The manufacturers did their parts to clean up the environment, but part of the higher cost was passed on to consumers. The result was greater efficiency: Buyers and sellers began paying a greater portion of the full cost of production—including the cost of cleanup.

The pollution from landfills is an example of market failure. The buyer pays for garbage disposal, but the fee may not cover all the costs of disposal, including air and water pollution.

Other governmental policies may be based on incentives instead of regulations. Some states require stores to collect a deposit—maybe 10 cents—on every aluminum can. People are not forced to recycle cans, but the incentive to return them is great when they realize that tossing out a case of cans is like throwing $2.40 out the window. And if they do throw the cans away, someone else is likely to recycle them, because it's worth $2.40 to do so!

B. Maintenance of roads and highways

Analysis: Firms pay fuel taxes, and these taxes are used to maintain roads. Producers pass on these costs to consumers in the form of higher prices; therefore, buyers do pay for the upkeep of roads.

C. Trash disposal

Analysis: Most households pay a fee for trash pickup. Even if trash is picked up by a city or town, taxes are used to pay the cost, and residents pay the taxes. Buyers may also bear a cost if their property loses value because of saturated landfills or polluting incinerators.

Further Discussion

Ask students to read **For More...** on this page. Encourage them to suggest other governmental policies that limit pollution through regulations or incentives. *Possible responses are:*

***Regulations**—requiring unleaded gas and the collection of used motor oil; banning the burning of leaves and trash*

***Incentives**—offering tax breaks to businesses and grants to communities that initiate recycling programs—e.g., individuals might receive rebates for bringing in old car batteries or tires, or they might get a discount on groceries for returning used plastic bags*

Economic Puzzle Challenge, Part 3

Before swiping the barcode, ask students to read the introductory paragraphs to **Economic Puzzle Challenge, Part 3**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 3

Video-based Questions

The video will pause on a screen posing this question (which also appears in the *Student Guide*):

How much should a society rely on governmental policies to reduce third-party costs of pollutants?

Give students time to brainstorm responses. Remind them to consider costs and benefits; they should think of the advantages provided by governmental regulation, but they should also consider the disadvantages. Allow time for discussion before students write their answers.

Students may respond: A governmental policy should be relied upon to the extent that the benefits of the policy outweigh the costs; for instance, if commuters ordinarily spend $60 per month to drive to work and a governmental policy forces them to use public transportation at a cost of $100 per month, the policy is inefficient and should be changed.

Economic Puzzle Challenge, Part 3

When the market is left to operate itself, usually the supply of and the demand for scarce resources result in a price that brings buyers and sellers together efficiently. When third-party costs that are not paid by the buyer or seller cause market failure, then the government might have to step in and regulate the market. But government intervention involves certain costs as well.

The volatile organic chemicals in the fumes released by paint and varnish cause air pollution. Paint and varnish are considered hazardous wastes, and special arrangements must be made to dispose of them.

As you watch the next part of the Puzzle Challenge, think about the costs and benefits of regulation. Also consider how you, as a citizen, can decide how far you'd like such regulations to reach.

Talk This Over

When the video pauses, the following question appears on the screen.

> How much should a society rely on governmental policies to reduce third-party costs of pollutants?

Discuss this with your classmates. Try to think of specific examples of regulations that you have read about in the paper or watched on the news. When your discussion is finished, write your own response on the following lines or another sheet of paper. Be sure to explain your answer.

Economic Puzzle Challenge, Part 4

Have you ever had to go through your kitchen wastebasket to find some important paper you had thrown away? Were you surprised by the variety of garbage your family produces in just one day? Think about products that you have used today, this week, this month, this year. Would your lifestyle be vastly different if you had used less? Would you have to alter your habits a great deal if you began car-pooling to school instead of driving alone? How would third-party costs change if you decided to ride your bike or use in-line skates instead of driving? Consider these questions as you watch the fourth part of the Puzzle Challenge.

Talk This Over

When the video pauses, the screen presents the following question.

> What third-party costs are created by products you have used lately?

Respond on the lines below or another sheet of paper. Discuss your answers with the other students in your class.

Another questions appears on the screen:

> If you were responsible for some or all third-party costs, would you increase or decrease your use of the product?

Explain your responses and then discuss your views with the class.

It's something to think about... a market economy uses resources efficiently when the price buyers pay covers the full cost of production.

Economic Puzzle Challenge, Part 4

Before swiping the barcode, ask students to read the introductory paragraphs to **Economic Puzzle Challenge, Part 4**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 4

Video-based Questions

The video will pause on a screen with this question:

What third-party costs are created by products you have used lately?

Have students respond in writing, then allow time for brainstorming and discussion.

Possible responses include: air pollution caused by driving instead of riding a bike, water pollution caused by lawn fertilizers, noise pollution caused by playing the stereo too loudly.

Swipe the following barcode for the next question:

If you were responsible for some or all third-party costs, would you increase or decrease your use of the product?

Again, have students respond in writing, and allow time for discussion. Encourage them to support their decisions to increase or decrease product use. *Generally, use will decrease because the product's cost will increase.*

Side 5 Menu

Quit Instructions

CLOSING

In **Put It Together** students are reminded that economic decision making is based upon an analysis of costs and benefits. When expected costs exceed expected benefits, inefficiency results. Students are asked to think about the cost of cleaning up pollution as they try to answer the question "How clean is clean enough?"

Encourage students to read **No Joy In Midville**. Assist them in calculating the *marginal cost* and *marginal benefit* incurred by the Cushy Tire Company as it attempted to reduce pollution. (Note: The chart that appears on page 46 in the *Teacher's Guide* contains the appropriate responses.)

Discuss the completed chart, and point out how marginal costs increase and marginal benefits decrease. The Cushy factory was able to make pollution-control adjustments as long as marginal costs were lower than marginal benefits; however, when it installed the purifier and supports, the situation reversed.

PUT IT TOGETHER

Is zero pollution possible? Can you drive a car, use your microwave, drink soda pop from aluminum cans, or enjoy a Saturday at Disney World without pollution? What would be the economic cost of a pollution-free world?

It's difficult to put a price tag on environmental quality, and it's hard to measure precisely the medical and other costs associated with pollution.

Economics is about making choices. Some people might choose to leave the city and move to the wilderness of Alaska or the tropics of Central America to get away from pollution. But if they did, they might also get away from electricity, running water, air-conditioning, and central heat. Most people are not willing to choose that trade-off.

So the question about pollution control becomes "How clean is clean enough?" The answer lies in examining costs and benefits. If the cost of cleaning up the environment is greater than the benefit that people receive, then that solution is not efficient. Often an increasingly clean environment results in fewer added benefits as it approaches zero pollution. The next story illustrates this.

No Joy in Midville

The Cushy Tire Company was located in the city of Midville. It produced radial tires and employed 63 local residents. Unfortunately, Cushy's tall smokestack was puffing out pollution at a rate of 900 tons a year. The factory was fined $1,000 for every ton of emissions that it spewed into the air—a total of

$900,000 a year! The factory had to do something to clean up its act.

First, at a cost of $10,000, the plant installed filters on its smokestack. This reduced emissions by 450 tons and saved $450,000 in fines imposed by the Environmental Awareness Agency. But the agency said, "Not good enough."

Next Cushy replaced all valves and gaskets on its exhaust system to prevent leaks. This cost $12,000 and removed another 225 tons of soot from the air, reducing fines an additional $225,000. The agency wasn't satisfied.

Cushy then began to burn a different, cleaner fuel at an additional cost of $20,000 per year. This measure eliminated another 100 tons of pollution and reduced the fines by a further $100,000. The environmental agency considered the latest move and said, "Still not good enough."

What else could Cushy do? Company executives decided they could install a new system for processing the fibers in their radial tires. The new process would cost $40,000, but Cushy could reduce its losses by laying off three employees. This move resulted in a cleanup of 50 additional tons of pollution and a further reduction in fines—but this time by only $50,000. The agency's response was, "You must do more."

The president of Cushy had recently learned about air-purifying mechanisms that could be attached to smokestacks. These devices required sturdy support systems that were not available in Cushy's old stack. So supports for a purifying system had to be built. The cost of construction and the cost of the purifier totaled $60,000. Thirty more tons of emissions were eliminated, and fines were reduced another $30,000—but four more workers lost their jobs.

The people who lived in Midville were beginning to worry. If Cushy had to reduce emissions to improve the air again, even more jobs might be lost—the plant might even shut down or move away. They began attending meetings of the city council and the environmental agency to ask that Cushy's pollution-control measures be approved.

Cushy's managers and accountants were also concerned. They could see that their costs were becoming greater and that the amount they were saving in fines was getting smaller and smaller. They knew this was not economically efficient. The inspectors did too. On their next visit they gave their stamp of approval to the measures Cushy had taken.

"Air pollution is not merely a nuisance and a threat to health. It is a reminder that our most celebrated technological achievements—the automobile, the jet plane, the power plant, industry in general, and indeed the modern city itself—are, in the environment, failures."

—Barry Commoner, *The Closing Circle: Nature, Man, and Technology* (1975)

What was the cost? Was it worth it? How clean is clean enough? The table below shows the measures that Cushy took, the total costs it incurred, and the benefits it received.

After Cushy used...	...its total cost was...	...total fines fell by...
Filters	$10,000	$450,000
Valves, gaskets	$22,000	$675,000
Cleaner fuel	$42,000	$775,000
New processor	$82,000 and 3 jobs	$825,000
Purifier, supports	$142,000 and 7 jobs	$855,000

Economic efficiency exists when **marginal benefits** are greater than **marginal costs**. For the Cushy Tire Company, this means that the additional cost of each pollution-cutting procedure should be lower than the additional benefit that is gained from each procedure.

Complete the following chart to show the marginal (additional) cost and benefit of each pollution-fighting device Cushy used. Write your answers below, or reproduce the chart on a separate sheet of paper.

Procedure	Marginal cost of procedure	Marginal benefit in savings
Filters	$10,000	$450,000
Valves, gaskets	*$12,000*	*$225,000*
Cleaner fuel	*$20,000*	*$100,000*
New processor	*$40,000 and 3 jobs*	*$50,000*
Purifier, supports	*$60,000 and 4 jobs*	*$30,000*

The Cushy Tire Company, the city council, and the environmental agency realized that pollution cleanup was efficient as long as the benefits exceeded the costs. If you examine your chart and compare marginal cost with marginal benefit, you will see that Cushy's first attempts to reduce pollution were efficient—the benefits exceeded the costs. But at what point did things get turned around? When did costs begin to exceed benefits?

When costs are greater than benefits, the action is no longer efficient. This is when firms and governmental bodies need to ask, "How clean is clean enough?"

A classroom activity can also demonstrate this concept. Fill several large paper bags with the following items: approximately 100 large wads of crumpled newspaper, about 50 or 60 small paper clips, a quarter of a cup of pencil shavings from the sharpener. When students are seated, explain that you are going to "pollute" the classroom with garbage. The object of the demonstration is for students to decide whether the cost of cleanup (based on the use of scarce resources) is more or less than the benefit of a clean classroom.

Pour the contents of the paper bags onto the floor. Choose one student to be the trash collector, and allow 30 seconds for cleanup. Instruct the collector to put all the gathered trash on one section of a desk or table. At the end of 30 seconds say, "That's not clean enough. I'll give you another 30 seconds." The collector should put the trash from this second collection period in a different pile. Once again announce, "Not clean enough." Allow another 30 seconds, and have the trash put in a third pile. Continue this until there is virtually no trash left on the floor.

What you will find is that the large wads of paper and a few paper clips are picked up first, and the first pile of trash is quite large. Each succeeding 30-second work segment provides less and less cleanup, until the final segment results in just a few tiny shreds of pencil shavings.

The class should observe that the piles of trash get smaller and smaller; that is, the marginal benefit becomes less, although the marginal cost (30 seconds of time and one worker) remains the same. Some students may argue that the marginal cost increases, because the tiny shreds of pencil shavings are more difficult to pick up than the large wads of paper. The question then becomes "Is the use of resources such as time and labor worth the small increase in cleanliness?" Students should be allowed to draw their own conclusions.

NET GAIN

IN the Puzzle Challenge that you just watched, the students made some good observations about trash. By the end of their discussion, they realized that no solution is totally right or wrong for all people. Try to remember these key points about the problem of trash:

1. **Scarce resources are used for the transportation and merchandising of goods.** Lea's classmates wondered why producers would be willing to use scarce resources to ship and pack goods. Shipping goods makes them available to more people; more consumers means greater demand, which means more sales for the company. Attractive packaging also influences consumer taste and increases demand. Because producers enjoy higher profits, they produce more goods. You benefit by having more choices and products available to you.

2. **Transporting and merchandising create some problems.** Trucks and planes use tons of fuel and cause a lot of pollution. Disposable diapers, CDs, and microwave popcorn all come wrapped in packaging that gets thrown away and is taken to incinerators or landfills. The costs of pollution and trash disposal involve third-party costs because someone other than the buyer or seller incurs the costs. If you are the third party, you will pay the price of air pollution and trash disposal. You might have to buy allergy medications if you have reactions to polluted air. Your taxes might go up as your community installs incinerators to dispose of garbage. Your costs will increase even though you were not responsible for the trash and the pollution.

3. **Governmental regulations attempt to reduce the problems created by transportation and merchandising.** Certain chemicals, such as DDT, have been banned. Communities charge disposal fees to maintain landfills and incinerators. Recycling of some materials might be mandated. Other regulations may limit the kinds and amounts of pollution that are allowed. Factories may be fined if their pollution levels are too high. You may be asked to vote on measures such as these. You will have to decide how much regulation is necessary or desirable.

The Aluminum Association reported that 64.7 billion aluminum cans were recycled in 1994.

SUMMARY

Have students read **Net Gain**. Review the three content statements, and encourage students to suggest other examples for each.

EXTENSION

Have students read **Building on Success**. Ask them to work in small groups to complete the activity. If students would like to interview persons other than those suggested, permit any reasonable alternatives.

Try to stimulate originality and creativity in student work, including visuals and graphics. Students should be encouraged to use computers to produce their finished products.

BUILDING ON SUCCESS

WORKING in teams, arrange an interview with your school custodian, the manager of a grocery store, a hospital administrator, or an automobile mechanic, and ask the following questions.

1. How many people are employed in the building where you work?
2. How many people who are not workers pass through the building on an average day?
3. How many trash bags are filled in a day?
4. What materials, if any, are recycled?
5. What measures have been taken in the past three to five years to reduce the amount of trash produced in this facility?
6. What is the yearly cost of trash pickup?
7. How many people on the staff are responsible for trash cleanup?

Use the answers to these questions to develop a team project describing trash cleanup at the site you chose. Your work should include a written report, a visual component such as a poster or model, and a statistical graph or chart. Be sure to provide an analysis of whether the managers of the site should further reduce the amount of trash in their buildings. Remember to examine costs and benefits—to the community, to consumers, and to producers.

ASSESSMENT

Two types of assessment are provided for you to evaluate students' comprehension and mastery of the concepts presented in this lesson.

ON YOUR OWN

Some assessment questions and activities appear in the *Student Guide* under the heading **On Your Own**. While these are intended to be used as homework, you may wish to have students complete some or all of them in class. The second activity includes an opportunity for creative writing.

Before completing this section, students may benefit from a review of third-party costs and the problem of unclear property rights.

Answers:

1. *The state-owned pond was overused and soon ran out of fish. Willie was able to protect his pond by enforcing rules and restrictions. His property rights allowed him to make decisions about how to use his pond and how to protect his scarce resources.*

QUALITY CONTROL

ON YOUR OWN

DEMONSTRATE your understanding of the topics covered in this lesson by completing the following activities. Use the lines provided or a separate sheet of paper for your responses.

1. In a certain county there were two ponds. One was state-owned; the other belonged to Willie Troutman. Willie charged people a $5 fee to fish in his pond. He also set a limit on the number and size of fish that could be removed. On the other pond there were no fees and no restrictions. Which pond do you think was overused? Which pond soon had no fish left? Explain your response.

2. Make up a story that illustrates the misuse of property that has no clear owner. Be sure to explain how the misuse occurs and why.

2. Stories will be varied, of course, but all should include explanations about misuse of property.

3. The air that the Cushy Tire Company was polluting did not belong to anyone; therefore, it was difficult to assign responsibility for cleanup. Besides, perhaps another factory, the Smoothie Glass Company, was polluting the air too—or maybe Soakie Sponges, Inc., on the other side of town, was responsible. How could inspectors determine how much pollution was coming from each company? How much should each have been expected to pay for the cleanup?

3. Responses may vary, but the following answers should appear, in any order (see next page).

Some economists have suggested market solutions to pollution problems. They believe that factories would respond to economic incentives. Here's an example of how a market solution works:

> The town of Breckenby has three factories. Each produces a certain amount of pollution, and each has a different cost to clean up the pollution, as the following chart shows.

Firm	Units of Emission	Cleanup
Partridge Co.	20	$5 per unit
Pear Ltd.	30	$10 per unit
Tree Corp.	40	$20 per unit

> The city council has decided that the community can tolerate only 60 units of emissions total. (Right now the three companies emit a total of 90 units of pollution.) The council has told the factories that they may choose any method of cleanup that results in a total of 60 units

of emissions. There are several ways the firms can choose to accomplish this.

You may wish to give students a hint on how to approach these problems.

Discuss ways the companies could work together to share costs; list your ideas below or on another sheet of paper. Then calculate the cost of each method. Which method has the lowest cost? If you were mayor, which method would you suggest and enforce?

***Method 1**—Each firm could reduce its emissions to 20. Cost to Partridge is 0. Cost to Pear is $100. Cost to Tree is $400. Total cost is $500.*

Method 1

_____

_____

_____

_____

What is the cost to Partridge Co.? _____

What is the cost to Pear Ltd.? _____

What is the cost to Tree Corp.? _____

What is the total cost of this method? _____

***Method 2**—Each firm could reduce by 10. Cost to Partridge is $50. Cost to Pear is $100. Cost to Tree is $200. Total cost is $350.*

Method 2

_____

_____

_____

_____

What is the cost to Partridge Co.? _____

What is the cost to Pear Ltd.? _____

What is the cost to Tree Corp.? _____

What is the total cost of this method? _____

***Method 3**—Each firm could reduce by two-thirds. Cost to Partridge is $66.67 Cost to Pear is $200. Cost to Tree is $533.33. Total cost is $800.*

Method 3

_____

_____

_____

_____

What is the cost to Partridge Co.? _____

What is the cost to Pear Ltd.? _____

What is the cost to Tree Corp.? _____

What is the total cost of this method? _____

Method 4

_____

_____

_____

_____

What is the cost to Partridge Co.? _____

What is the cost to Pear Ltd.? _____

What is the cost to Tree Corp.? _____

What is the total cost of this method? _____

Method 4—*Partridge could reduce by 20; Pear could reduce by 10; Tree would remain the same. Cost to Partridge is $100. Cost to Pear is $100. Cost to Tree is 0. Total cost is $200.*

Which method has the lowest total cost?

_____

Method 4 has the lowest cost.

Which method would you choose?

_____

Responses to the remaining questions will vary.

Why?

_____

_____

_____

Do you prefer governmental regulations or market solutions to pollution problems? Give reasons for your opinion.

_____

_____

_____

_____

_____

Assessment-Track Questions

Besides appearing in the *Student Guide*, the questions under the heading **In Class** are contained on a special assessment track of the videodisc for this module. Using the appropriate disc side, you can access each question by swiping its barcode. Each question is presented as a voice-over to part of a video program that students previously watched. The video will provide students with valuable cues, enabling them to generalize previously learned material to new situations.

Assessment Question 1

1. *Air and water are two. When a truck or plane, in transporting goods, sucks in clean air and discharges pollutants into the atmosphere, it uses clean air as an input. The clean air used in production and transportation is a scarce resource because it has alternative uses. Water is also a scarce resource.*

Assessment Question 2

2. *Some resources are not priced in the market and are therefore not used efficiently. Some resources* ***are*** *priced—for example, wear and tear on a truck, wages for labor, and expenditures for gasoline. It is clear who owns the truck, labor, and gasoline; therefore, the market price allocates each item to those most willing to pay for it. Because they pay for it, people who use that item have an incentive to economize on its use. However, because no ownership rights are associated with clean air, its use cannot be accurately priced by the market. Its use as an input is not governed by what it "costs" to use; as a result, firms have no incentive to conserve on its use. Because the market fails to price resources for which no strict property or ownership rights exist, some environmental resources are not used efficiently.*

In Class

The following questions should be answered while you watch a special section of the videodisc that your teacher will play for you. Write your answers on the lines provided or on a separate sheet of paper.

1. Some scarce resources used in the transportation and merchandising of goods include paper, plastic, cardboard, and other packaging material. These end up as "trash" and are disposed of or recycled. What are some other "scarce resources" used in the transportation and merchandising of goods?

2. What are some problems caused by the transportation and merchandising of goods?

3. Since the private market fails to allocate scarce environmental resources efficiently, what can be done?

4. We know that environmental quality is a good thing. But can too much environmental quality be a bad thing? Or can you never have enough environmental quality?

Assessment Question 3

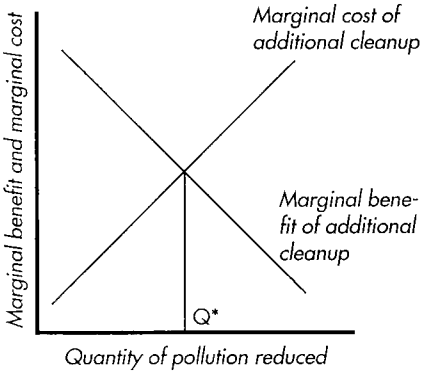
2

3. Government may have a role in an economy when markets fail to produce an efficient outcome, as in the case of environmental resources. When property rights are not well-established, such as with clean air or water, the government may impose regulatory measures—by banning dumping, for instance, or by taxing polluters. Polluters thus "internalize" the cost that would otherwise be passed on to third parties. A tax would, in effect, make the polluter "pay" for the use of the environmental good, thereby creating an incentive to economize on its use. Ideally, the optimal tax would exactly equal the costs that third parties incur.

Assessment Question 4

2

4. Extreme environmental quality can be inefficient, because scarce resources are needed to improve the quality of the environment. If the cost of additional cleanup exceeds the benefit obtained, then things have "gone too far." Because the additional benefits that derive from more environmental quality do not increase proportionately, the optimal amount of cleanup occurs when the marginal benefit equals the marginal cost. This graph shows that the benefit of achieving perfectly clean air would not be worth the cost.



*Optimal pollution reduction

Side 6
Graphical Database Barcodes

(Use "step still" function or barcodes below to advance within categories.)

Step Back

Step Forward

Elasticity

Role of Profits

Product Markets

Consumer Behavior Theory

Production Theory

Foreign Exchange Markets

Human Resource Market

Nonhuman Resource Market

Aggregate Supply & Demand

Loanable Funds Market

Side 6
Teacher-Track Barcodes

Global Composite Manufacturing

Cost-Benefit Analysis

Currency Markets

About the Puzzle Challenge

ECONOMICS® at Work

Module 2, Lesson C

BUILD YOU A 'VETTE?

ECON BRIEFING

"I'LL trade you!" Everyone has said it. When you were little, that statement may have led to a swap of baseball cards or stickers. As you got older, you realized that anything can be traded for anything else—as long as both traders expect to gain. You wouldn't make a trade in which you expected to come out on the short end of the deal, would you?

Many things that people can't produce for themselves can be obtained by trading something they can produce. In the Middle Ages, two traders would meet and place their goods in piles. After examining each other's goods, they would remove items from the piles until they thought both piles were of equal value. Today people still trade resources, and in most cases the resource is labor. But labor can't be directly traded for everything. Suppose someone who cuts grass for a living wants a new car... he would have to mow a car dealer's lawn from here to eternity to make a fair trade. There simply aren't many opportunities to make direct trades—that's why people use money!

Money has also solved some of the problems of international trade, but complications still exist. For one thing, every country has its own currency. How much American companies can buy in foreign markets depends on the "exchange rate," what the dollar is worth in relation to foreign currencies.

WHAT YOU'LL LEARN IN THIS LESSON

- Money serves as a medium of exchange, a unit of account, and a store of value.
- Foreign exchange rates affect the amount of goods and the number of services that people can buy in the global marketplace.
- Money is more efficient than barter for conducting foreign trade.
- There are costs as well as benefits in trading with firms in other countries.

3 CLASS PERIODS

Materials

This lesson uses the videodisc (or videotape) program **Build You a 'Vette?** To perform the activities, students may use the following items: recent issues of newspapers and newsmagazines, calculators, computers with word-processing and graphics software, and the yellow pages of the telephone book.

INTRODUCTION

In this lesson students learn that, because money serves as a medium of exchange, a unit of account, and a store of value, it is more efficient than barter for the exchange of goods and services. They examine foreign trade and learn that the value of foreign currencies relative to the value of the dollar determines the amount of goods and the number of services that can be purchased with dollars. The lesson also helps students recognize that they must consider not only the cost (in dollars) of foreign goods and services but also the transaction costs involved in an exchange, and that they must weigh all costs against the benefits.

GOALS

This lesson will enable students to demonstrate their understanding that money is more efficient than barter for exchanging goods and services, not only in domestic

The Importance of Money

"It is the lifeblood of economy, the all-purpose tool, the instrument of success....It is a universal commodity, embellished with the whole range of human emotions; it is the measure of our existence."

—Guy de Rothschild, great-grandson of James de Rothschild, founder of the Rothschild Bank in France

"I don't care too much for money, money can't buy me love."

—The Beatles

markets but also (and especially) in global markets; that exchange rates affect the amount of foreign goods and the number of services that can be purchased; and that costs must be weighed against benefits when contemplating an exchange.

Objectives

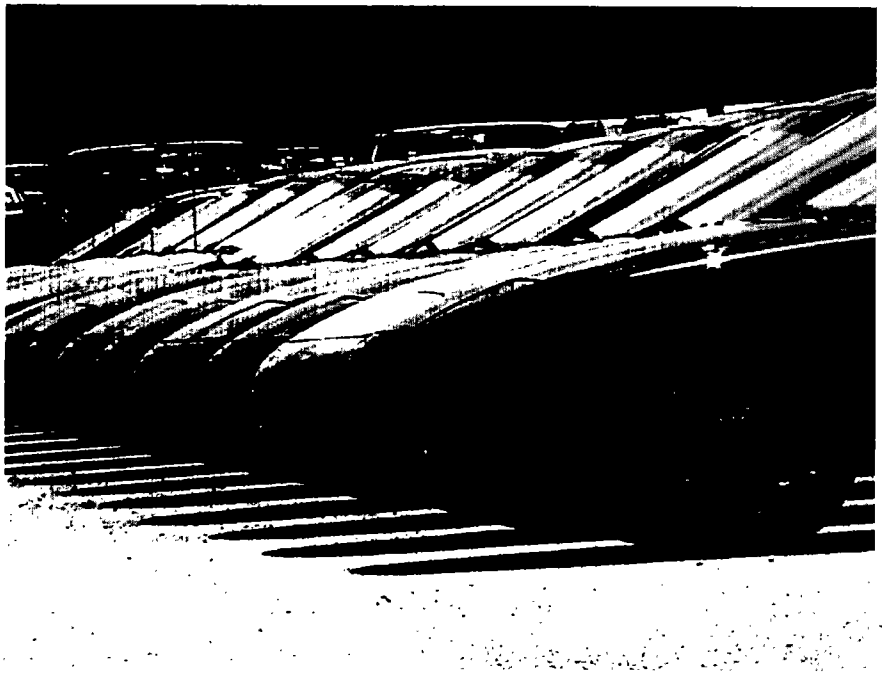
Upon completing this lesson, students will be able to:

- describe the functions of money as a medium of exchange, a unit of account, and a store of value
- explain that a useful medium of exchange has certain characteristics
- explain that for barter to be successful, there must be a coincidence of wants and the ability to trade goods of different value
- calculate the exchange rates of foreign currencies relative to the dollar
- give examples of groups that may gain or lose by international trade
- define an exchange rate as the price of one nation's currency as expressed in another nation's currency
- give examples of how changes in exchange rates affect the flow of trade among nations
- state the effects of political, economic, and natural events on the value of currencies
- explain that all costs associated with a transaction must be weighed against its benefits

Payback

You've known about money as long as you can remember. From your first allowance to your summer job, you've known just what to do with your money—spend it or save it!

This lesson will help you understand how money functions in the global economy. It will also increase your confidence as you deal with money in both domestic and foreign exchange of goods and services. Your understanding of money in the global marketplace and your ability to deal with it confidently will greatly enhance your value to future employers.



These cars may have been made in Canada with parts from Mexico and Germany, but if you want to drive one off this American lot as your own, you'll need American dollars.

Econcepts

barter—the direct trading of goods or services among people

coincidence of wants—each party's having something that the other wants

divisibility—the ability to trade goods of different value

exchange rate—the price of one country's currency as expressed in another country's currency

functions of money—money's uses as a medium of exchange, a store of value, and a unit of account

medium of exchange—anything that serves as a tool for exchange and is acceptable, divisible, durable, portable, and relatively scarce

store of value—the ability to retain buying power and liquidity

unit of account—the ability to express the market value of different goods and services

POWER UP

HAVE you ever planned the perfect night out, only to have everything go wrong? Well, meet Jackie. She planned the perfect vacation, but it didn't turn out that way.

Stranded!

It was 6:30 in the morning when Jackie's plane landed in the Azores Islands, where she planned to spend a long, leisurely vacation. Her hotel room wouldn't be available till noon, so she headed for the open market near the airport. As she wandered around, she was impressed with the beautiful jewelry that several craftsmen were making.

She watched one man pick a small, dull shell from a bucket and form it into a square by filing it with a rock. He shined the square by rubbing it against the fine, gray sand. By twisting a sharp rock into the center of the square, he made a small hole through which he passed a fine strand of hemp. Fifty shells later, he had a lovely necklace, which Jackie couldn't resist buying.

Lesson Description

This lesson focuses on the incorporation of foreign parts into U.S.-assembled automobiles. Students will observe the activity of a purchasing agent for a U.S. automaker, as she weighs the costs and benefits of various proposals to supply steering wheels. In making her decisions, she not only considers the price of the parts but also the transaction costs.

Before showing the video, urge students to think about where cars are made in the United States and where their parts originate.

Key Terms

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 55–56). Discuss the main topics, and brainstorm any questions that students may have. You may want to put their questions on a chart or chalkboard and to display it throughout the lesson. Encourage students to keep notes as they develop ideas about the topics of the questions.

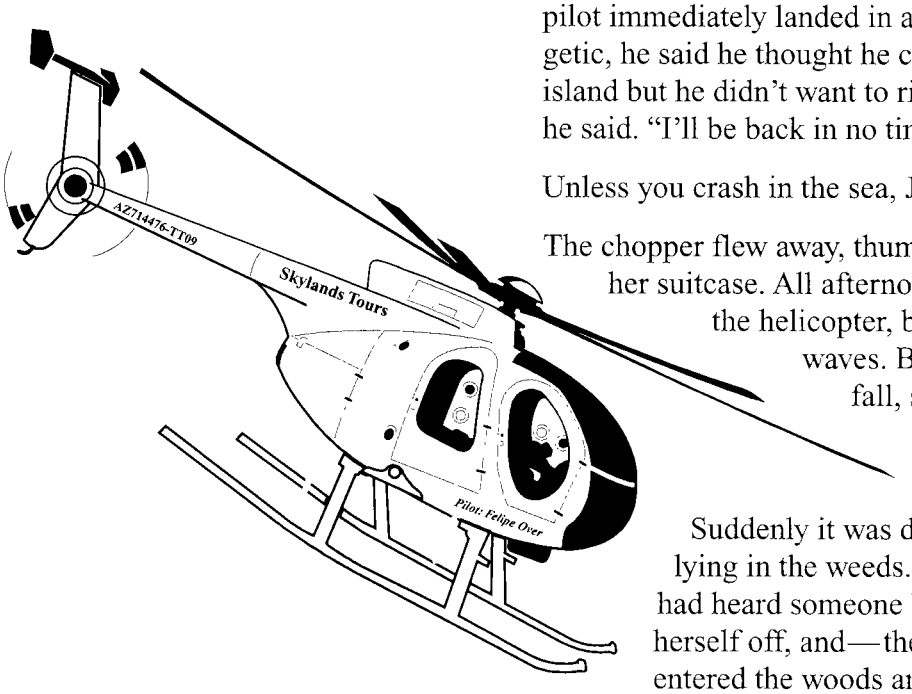
Students may also brainstorm their experiences with barter, including any difficulties they found with the barter-trade process. You may wish to list their examples, along with any difficulties they cite, on the chalkboard.

Introduce the **Econcepts**, and give contextual examples of each. Ask students to refer to them as needed during the lesson.

Encourage students to read **Stranded!** in the **Power Up** section. Have them take notes of the barriers that Jackie encounters as she tries to acquire the goods she wants on the island.

They should pay particular attention to:

- items that Jackie tries to use for money
- items that do not work well as money
- the item that does work well as money
- the characteristics that this item possesses
- the advantage of using money instead of barter



Around mid-morning Jackie spotted a sign: "Skylands—See the Islands from the Sky." An olive-drab helicopter stood in a field. She needed to sit down—jet lag was setting in—so she handed the pilot "$50 American" and climbed aboard.

The view of the tree-covered islands was spectacular, and the pilot seemed intent on showing her each and every one. They flew farther and farther, but then, as they skimmed the trees of a small isolated island, the engine began thumping. The pilot immediately landed in a small clearing. Deeply apologetic, he said he thought he could make it back to the main island but he didn't want to risk Jackie's safety. "Stay here," he said. "I'll be back in no time with a better helicopter."

Unless you crash in the sea, Jackie thought.

The chopper flew away, thumping loudly, and Jackie sat on her suitcase. All afternoon she listened for the sound of the helicopter, but all she heard were birds and waves. By the time darkness began to fall, she was really scared. She sat on her suitcase, determined not to close her eyes all night.

Suddenly it was daylight, and Jackie woke up lying in the weeds. She had a vague idea that she had heard someone laughing. She got up, brushed herself off, and—there it was again, a laugh! She entered the woods and followed the sound to a small pond, where several women were washing their hair. They had long, fine hair, and they weren't wearing any clothes.

Desperate for help, Jackie crashed through the brush and hurried around the pond. The women, who didn't speak English, were startled but friendly. They took Jackie to their village, where they offered her all the bananas, coconuts, and mangoes she could eat. After everyone in the village had a look at her—and she at them!—she hurried back to the clearing to wait for the helicopter. But it did not show up.

Jackie ate with the villagers that evening, the next morning, and again the next day. By the end of the day, however, she realized she was no longer welcome. People had stopped smiling at her. No one offered her food. Jackie knew she had mooched off them for the last time. She ran to the clearing and snatched her bag. Back in the village, she offered a dollar for a mango, but everyone turned her down—they didn't use pieces of paper to trade. No problem…her expensive clothing and makeup would buy her all the food she could

eat. She offered her mascara for a mango, a silk blouse for a coconut, but they turned her down again—they didn't wear makeup or clothing.

She had only one thing left—the necklace she had bought in the marketplace. She offered her necklace for six bananas, and a merchant gladly accepted. Throughout the day she rationed her bananas, but after eating the last one, she had no way to buy more food. She walked to the beach and noticed some familiar-looking shells. She filed one against a rock and then rubbed it in the sand. She made a hole with a sharp rock and strung the shell on a hemp vine. All night long she worked, and by dawn she had four new necklaces.

Jackie returned to the village and offered one necklace for six mangoes. The merchant shook his head and held up only three. Apparently three mangoes were equal in value to six bananas, so Jackie made a deal for three bananas by cutting the necklace in half.

That night she made more necklaces, and the next day she returned to the village to make her purchases. This went on day after day, and eventually all the merchants began using the necklaces to trade for things they wanted.

Eventually Jackie was rescued. Her helicopter pilot hadn't come back for her because, just as she had feared, he had crashed and was badly injured. Several weeks had passed before he was able to explain where he had left Jackie. One of her rescuers said he was surprised to see the natives wearing shells. Jackie told him what had happened. "The necklaces are a form of money," she explained, "a convenient way to exchange goods. The people don't wear clothing, so they can't carry their money in their pockets, but they can wear it around their necks or on their wrists and ankles." She also explained that the people could now save money for future use by keeping their necklaces in safe places, and that their necklaces served as a way of measuring the value of different kinds of goods.

Trade Talk

"Fools rush in where wise men fear to trade."

—Peter Drucker, American business philosopher and author

"...interdependence re-creates the world in the image of a global village."

—Marshall McLuhan, Canadian educator and author

It was a good thing that Jackie knew something about economics. She understood that money has three functions—it serves as a medium of exchange, a store of value, and a unit of account. This knowledge helped her survive her ordeal.

Have students read **Medium of Exchange**. Ask if shell necklaces would be a useful medium of exchange in their society. Why or why not?

Medium of Exchange

A "medium of exchange" is something used to trade goods and services. Items that work well as mediums of exchange have five

Here Today, Gone Tomorrow

WHAT if you needed a wheelbarrow full of money to buy a loaf of bread? That load of money wouldn't be worth much, would it? Money is usually a reliable store of value. There are times, however, when the value money holds one day is greatly reduced by the next day. This here-today-gone-tomorrow loss of value occurred in Germany in the 1920s.

UPI/Bettman

Because of runaway inflation in 1923, this pile of money became almost worthless. The face value of the currency was several million marks, but a housewife in Berlin, Germany, used the cash to start a fire in her kitchen stove. Following World War I, Germany's currency fell so much in value that it was cheaper to start fires with it than to use it to buy kindling wood.

After World War I ended in 1918, Germany was required to make reparations. The burden of meeting these war-damage payments contributed to the failure of the German economy and to runaway inflation.

Simply buying a loaf of bread became difficult as its price increased from 10 marks to 1,000 marks in one week and then skyrocketed to one billion marks. Money lost its value so quickly that salaries and wages were paid every day.

By 1922 the exchange rate between U.S. dollars and German marks had fallen from 162 marks to the dollar to 7,000. By November 1923 the exchange rate had taken a freefall to 4,200 billion marks to the dollar.

characteristics. People must be willing to exchange goods and services for the item serving as money. In other words, a medium of exchange must be **acceptable**. It must be **divisible**—people must be able to break it down into smaller amounts. It must also be **durable** (able to endure heavy usage), **portable** (easy to carry), and **relatively scarce** (available in limited amounts).

On the island where Jackie was stranded, various foods could not be used as money because food doesn't have the necessary characteristics. For example, bananas and mangoes couldn't be saved for the future or divided into smaller parts, for they would quickly spoil, and coconuts would be very hard to carry. What if the islanders wanted to use some smaller item, such as macro leaves, for money? They could string them together like Jackie's necklaces, which would solve the portability problem, but macro leaves would not be relatively scarce; in fact, they would be so common, so easily available, that they would have no significant value.

Store of Value

The people on the island saved by keeping their money—their necklaces—in safe places. Do you save your money? Do you have a savings account? What if you withdrew your money and discovered that it would buy only half as much as you could have bought with the money when you first deposited it? Or worse yet, what if your money were now totally worthless? Believe it or not, this could happen! For instance, in colonial America tobacco leaves were used as money. After a while, the leaves would become soiled and damaged, losing their value as tobacco.

Have students read **Store of Value**. Encourage them to answer the questions at the end of this section and to discuss their responses with their classmates.

Something that serves as money must hold its value, or people will have no confidence that they will be able to use it to obtain goods when they wish. Today people use dollars, not tobacco leaves. They are willing to save them for future purchases because they are confident that their dollars will be just as acceptable and nearly as

valuable in 10 years as they are today. Why only "nearly" as valuable? Because of **inflation**.

The term "inflation" means an increase in the average level of prices. People have come to expect some inflation every year. The annual increase is usually small, but not always. In 1974, '79, '80, and '81 the United States experienced double-digit inflation. In 1980 the rate of inflation was 13.5 percent, which means that, on average, prices were 13.5 percent higher than they were the preceding year.

To see what this means, step back in time to January 1, 1980. Imagine that you want to buy a great portable stereo that costs $100. You decide to start saving for it. Unfortunately, by the time you save the $100 it's 1981, and the price is now $113.50. The price has inflated by 13.5 percent. Not all prices went up 13.5 percent. Some increased more than that, some less. Remember, the inflation rate represents the increase in the average price level.

Use the lines below or a separate sheet of paper to answer the following questions. Then discuss your answers with the class.

- How was the function of money as a store of value demonstrated in the story about Jackie's vacation?

_____

_____

- Look at your dollar bills. Each bill states that it is "legal tender." What does that mean?

_____

_____

- How do you know that the dollars you accept as payment today will have purchasing power next week?

_____

_____

Money Mortality

DOLLARS don't live forever. In fact the average life expectancy of a $1 bill is about 18 months. For a $5 bill the average life is two years; for a $10 bill it's three years; and for a $20 bill it's four years. Larger bills last about nine years because they don't circulate as often.

—Adapted, with permission, from *The Word on Business* (St. Louis, October 1994)

Students should respond along these lines:

The islanders saved their money for future use.

"Legal tender" is a term that refers to whatever the government designates as acceptable payment for goods and services. (If students have difficulty answering this question, suggest that they look up the meaning of "legal tender"—or "legal" and "tender"—in a dictionary.)

People have confidence in the dollar's acceptability because the government considers the dollar legal tender.

Unit of Account

As a "unit of account," money is used to express the market value of all different kinds of goods and services. Measuring the value of goods on the basis of a common medium of exchange is much easier than measuring the value of one good in relation to every other good. In Jackie's story, for example, three mangoes are worth six bananas. But how many coconuts or oranges would equal six bananas? It would be extremely difficult to try to keep track of every good's value in relation to everything else.

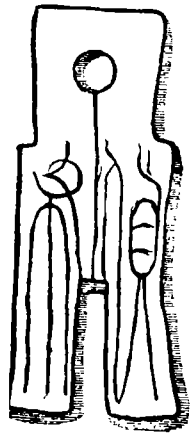
Have students read **Unit of Account**. Ensure that students understand the concept featured in this section.

Throughout history, many different and unusual items have been used as money. Sugar, tea, tobacco, cows, shells, iron bars, and even huge stones have been used to trade for goods and services. Keeping in mind the five characteristics of money, do you think any of these items could serve as money in today's society? Discuss this question with your classmates.

Ask students to read **Barter**, and then have them recall their own experiences with barter, which they discussed at the beginning of the lesson. Ask if they experienced problems with "coincidence of wants" or "divisibility" in making barter trades.

Barter

The direct exchange of goods and services is known as **barter**. Why did the people on the island readily convert from an economy based on barter to one based on money? Think back to the car dealer at the beginning of this lesson. Maybe you would be willing to cut his grass for the rest of your life in return for a new car. But what if the dealer had no lawn? It's not likely he would accept your offer.



In China, miniature tools such as this hoe were mediums of exchange as early as 1100 B.C.

For barter to work well, each party must want what the other party has. This is called a **coincidence of wants**. There also must be a way to make small purchases or to provide change in large purchases; therefore, the item being traded should be easily divisible. You wouldn't want to cut the grass 10 times for a steering wheel, another 10 times for a fender, and so on till you had a complete car. Divisibility is essential to the bartering process.

VIDEO CORE

Have students read the two paragraphs under the heading **Take a Closer Look**.

TAKE A CLOSER LOOK

TODAY'S global economy has led to the production of goods whose parts come from many countries around the world. Unlike barterers in the Middle Ages, today's traders have the convenience of using money to complete their transactions. But every country has its own kind of money. U.S. dollars are acceptable in the U.S., but what happens when an American company wants to buy something from a firm in France, which uses francs? Which currency do they use?

The process of international trade involves two steps: trade money, and then trade goods. You'll see how this works as you watch the video.

INTRODUCTION TO THE VIDEO

The first video segment explains that many U.S.-assembled automobiles are actually produced with foreign components and that many foreign-produced cars contain U.S. parts. Ask students to read **What You'll See on the Screen**. After they finish reading, begin a brief discussion by asking if they know of any examples of a U.S.-produced car made with foreign components.

WHAT YOU'LL SEE ON THE SCREEN

"Build You a 'Vette?" features the all-American classic sports car. Well, it certainly is a classic, and it is a sports car, but is it 100 percent American?

The opening segment explains that U.S. cars may not be completely made in the U.S. Automakers are concerned with producing a quality product as inexpensively as possible. Frequently this means using foreign-made parts. As you watch the introductory segment of the video, pay particular attention to the reasons for including foreign parts in U.S. cars. Then, in the Economic Puzzle Challenge, you will examine the effects of international trade on American companies and their employees.

For a car to be called "domestic," meaning it's manufactured in the United States, 75 percent of its parts have to be made in the U.S. A Corvette may have wheels from Japan, brakes from Australia, and shocks from Germany.

Talk This Over

Brakes from Australia. Shocks from Germany. Electrical relays from Taiwan... Now that you've seen where their parts originate, American cars might seem more like world cars. Explore the implications of the "world car" by answering the following questions. Use the lines below or a separate sheet of paper for your answers, then discuss them with the class.

- What do you think would happen to the price of a Corvette if less expensive foreign-made parts could not be used?

_____

_____

_____

_____

_____

Video-based Activities

Have students read the introductory paragraph of **Talk This Over**. Then start the videodisc (Side 6), and swipe this bar-code to play:

Build You a 'Vette?
(introductory segment)

The video will pause on this question (which also appears in the *Student Guide*):

What do you think would happen to the price of a Corvette if less expensive foreign-made parts could not be used?

Have students respond in writing. When all have finished, encourage them to discuss their answers as a class.

Responses should include these points: The price of the Corvette would increase, because producers react to increased costs by reducing the supply of their product. When supply decreases but demand remains the same, quantities exchanged decrease and the price increases.

Swipe the next barcode to generate the following question (which also appears in the *Student Guide*):

How are car buyers affected when U.S. auto companies import foreign-made car parts? How are autoworkers affected?

Have students respond in writing. When all have finished, encourage them to discuss their answers as a class. *They should make these points: If the car parts are equal in quality to the U.S. car parts but cost less, auto companies will supply more cars in the market and prices will be lower. Autoworkers in assembly plants may benefit from the increased production in the plants; however, those workers who produce American-made car parts may lose because of the decreased demand for their products.*

Swipe the next barcode, which generates another question (which also appears in the *Student Guide*):

If we import more goods from Mexico, how does that affect U.S. workers?

Again have students respond in writing. When all have finished, encourage them to discuss their answers as a class. *They should make these points: When tariffs and other trade restrictions were in place, Mexican goods were either unavailable to U.S. consumers or the prices of Mexican goods were relatively high. Mexicans were restricted in what they were able to sell in the U.S.; therefore, their income from U.S. sales was low. The NAFTA treaty allows fewer restrictions; under NAFTA, when U.S. firms import goods from Mexico, Mexicans have increased income and more money to spend on U.S. goods. Those U.S. workers producing goods purchased by Mexicans and those workers in the export industry benefit from increased trade.*

- How are car buyers affected when U.S. auto companies import foreign-made car parts? How are autoworkers affected?

What's down the road for U.S. automakers and their employees? Continued competition with firms in other countries.

- If we import more goods from Mexico, how does that affect U.S. workers?

For More...

When you answered the first of the preceding three questions, did you say that the price of a Corvette would increase if less expensive foreign-made parts could not be used? It seems reasonable to expect that more costly parts would increase the cost of the finished product. But couldn't the manufacturer be content to make a little bit less money on the car?

Put yourself in the producer's position. Imagine you own an ice-cream stand that specializes in hot-fudge sundaes. Your costs for each sundae include: ice cream, $0.50; hot fudge, $0.25; whipped cream, $0.10; nuts, $0.10; bowl and spoon, $0.05.

For every sundae you make, it costs a total of $1.00 for ingredients and supplies. On top of that, you have costs for maintaining your stand, paying utility bills, and making a certain amount of profit; these three items add up to 25 cents per sundae. The price you charge is $1.25, which covers your costs and allows a normal profit. You sell approximately 100 sundaes a day; therefore, your daily expenses are $125.00 and your daily revenues are $125.00. (Remember, your costs already include a normal profit.)

Then the price of hot fudge increases to $0.50!

If you continue to make 100 sundaes per day, it will cost you $150.00, and you will lose money. You may be willing and able to supply fewer sundaes at the $1.25 price. Before the hot-fudge price increase, you were willing to supply 100 sundaes in the market, but now you are willing to supply only 80 sundaes. At a price of $1.25, the quantity supplied is 80, but the quantity demanded is 100. As a result, there will be a shortage of ice-cream sundaes, and the price will increase to eliminate the shortage.

Here's the Scoop

TAKE a walk down the freezer aisle in your grocery store and you'll find a mouth-watering selection of ice-cream flavors—pistachio, cookies and cream, chocolate almond fudge, and, of course, the best-selling flavor of all, vanilla. That's right. Twenty-eight percent of ice cream sold in the United States is vanilla. Fruit-flavored ice cream is second; ice cream with nuts is third; and candy mix-ins and chocolate round out the top five flavors.

When Americans shop for frozen desserts, they choose ice cream over frozen yogurt and novelties (such as ice-cream bars) more than half the time, according to the International Ice Cream Association. In 1993, 866 million gallons of ice cream were produced in the United States—that's $3\frac{1}{3}$ gallons per person.

—Based on information from the International Ice Cream Association and the U.S. Department of Agriculture

Talk This Over

"All I ever do is work!" People often complain about all the work they have to do. Yet they manage to find time to spend the money they earn. People are not only workers; they are also consumers, and they want quality goods at low prices. Discuss the following question with your class.

How would workers who are also consumers be affected when companies import goods from Mexico?

Further Discussion

Have students read **For More...** on this page. To check for comprehension, ask students for examples of other products whose supply might be reduced because of higher prices of materials, thereby creating a shortage, which could be eliminated by increasing the prices of the finished products.

Video-Based Activities, Continued

Have students read **Talk This Over** and discuss the question posed in their guides at the end of the section. Elicit the following points: *All workers are consumers, and consumers benefit from the increased selection and lower prices resulting from the increased competition of free trade.* Offer the following economic reasoning for that response: Using the lowest-cost parts allows domestic automakers to keep their costs low; therefore, they will offer more cars at each and every price, and supply will increase. When supply increases, with demand unchanged, prices decrease.

Further Discussion

Ask students to read **For More...** on this page. Have them respond in writing to the questions posed in their guides. Encourage them to share their answers with the class.

For More...

Everyone receives wages for the work they do. What is the value of those wages? The value lies in what those wages will purchase, both in quality and in quantity. Which is better, a $10,000 income or a $20,000 income? That question is a real no-brainer, right? Well, consider what might happen if the federal government passed a law that said:

> Effective immediately, the importation of goods into the United States shall not be permitted.

Use the lines below or a separate piece of paper to answer the following questions.

- What would happen to prices of goods in the U.S.? Why?

_____

_____

_____

Possible answers are:

Prices would increase because of the decrease in supply. Supply would decrease because of the reduction in the number of producers.

- How would the value of wages be affected if prices were twice as high?

_____

_____

_____

If prices were twice as high, wages would be worth half as much. In other words, a $20,000 income would be equivalent to the earlier $10,000 income.

Economic Puzzle Challenge, Part 1

Before swiping the barcode to continue, ask students to read the introductory paragraphs to **Economic Puzzle Challenge, Part 1**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 1

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

What's better for U.S. workers in this case?

Economic Puzzle Challenge, Part 1

"Good economics makes bad politics." What does that mean? The goal of elected officials—politicians, union leaders, and even student council members—is to represent the interests of the people who elected them. Members of Congress and union leaders might have quite different attitudes toward imported car parts.

As you watch the first part of the Puzzle Challenge, consider how imports affect different groups of people: U.S. workers who produce goods purchased in Mexico, Americans in the export industry, those who work as importers, employees who produce goods with imported parts or resources, and people who consume goods imported by Mexican companies.

Decision Time

At the end of the first part of the Puzzle Challenge, the following question appears on the screen.

> What's better for U.S. workers in this case?

Use the lines provided here or a separate sheet of paper to make your choice and explain your decision. Then watch the video to see what happens as a result.

☐ A. Importing the steering wheels

_____

_____

_____

☐ B. Making the steering wheels in the U.S.

_____

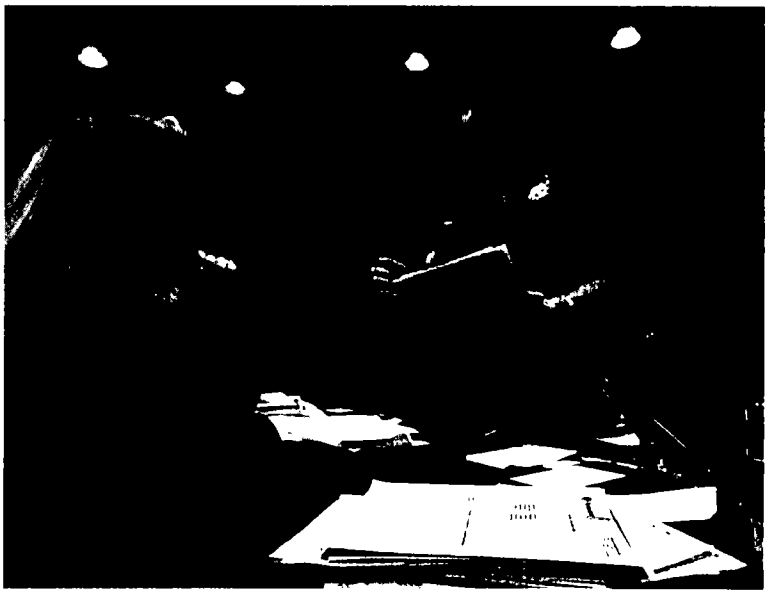
_____

_____

For More...

By using the least expensive parts, the automaker keeps its costs low. Higher costs might lead the firm to reduce the number of cars it supplies (remember what happened at the ice-cream stand?) But if fewer cars are produced, what might happen to the employees who design and make them? Discuss this question with your classmates.

Next think about what would happen if the car company found another source for parts—a source willing to provide parts at a price even lower than the original. How would this affect employment opportunities in the auto industry? And how might workers in related industries, such as transportation and sales, be affected? Discuss these questions.



A local politician has been pressuring you to make the steering wheels in your home state, and some union representatives would like to see the parts made in the U.S.

Assist students in analyzing each of the possible responses. Then swipe a barcode for the option you wish to view.

A. Importing the steering wheels

Analysis: The increased production is good news for autoworkers. On the other hand, U.S. workers producing steering wheels will experience decreased demand for their product and reduced job security. (This option, as well as option B, will play directly into **Economic Puzzle Challenge, Part 2**.)

B. Making the steering wheels in the U.S.

Analysis: It might seem as if those workers involved in the production and transportation of steering wheels in the U.S. would be better off, but the higher-priced U.S. steering wheels will increase the cost of producing cars. Fewer domestic cars will be produced at each and every price; therefore, the jobs of all workers involved in domestic car production will be in jeopardy. (This option, as well as option A, will play directly into **Economic Puzzle Challenge, Part 2**.)

Further Discussion

Ask students to respond to the questions posed in **For More...** on this page. *Responses should be in words to this effect: If fewer cars are produced, fewer design and production employees will be required; however, if the price were suddenly reduced, the demand for autoworkers would increase and the demand for all workers in related industries would also increase.*

Economic Puzzle Challenge, Part 2

Both options A and B of **Economic Puzzle Challenge, Part 1** played through the introduction to **Part 2**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 2

Video-based Questions

The video will pause on this screen (which also appears in the *Student Guide*):

How about some background information on ...

A. Mexico

B. United States

Ask students to read **Decision Time** and to choose a response. Then swipe barcodes to view:

Mexico—the Up Side

Mexico—the Down Side

U.S.—the Up Side

U.S.—the Down Side

Further Discussion

Have students read **For More...** on this page. Lead a whole-class discussion of the questions in this section.

You may also wish to encourage students to use recent issues of newspapers and newsmagazines to do research on current events in Mexico.

Economic Puzzle Challenge, Part 2

Decision Time

To make the best economic decision, you must gather the most complete information possible. Price isn't the only factor that should be considered in making a large purchase. For one thing, the cost of transportation is important. Some other considerations are the amount of time it will take to receive the parts, the reliability of the supplier, and the stability of the supplier's work force. Purchasing decisions must take into account all the transaction costs. If you worked for an automaker, would you know how to obtain the information needed to make a well-informed decision?

The U.S. supplier in Jackson, Tennessee, can use superhighways to ship steering wheels to the plant in Amarillo, Texas. Shipments from the Mexican supplier in Durango will have to take a less direct route on secondary roads. How will this affect transportation costs?

The program has paused on this screen:

How about some background information on...

A. Mexico

B. United States

Watch the video to get additional information that will help you make a sound economic decision.

For More...

Drawing on the information in the video you just watched, as well as what you have read in newspapers or seen on TV, discuss the following questions with the rest of the class.

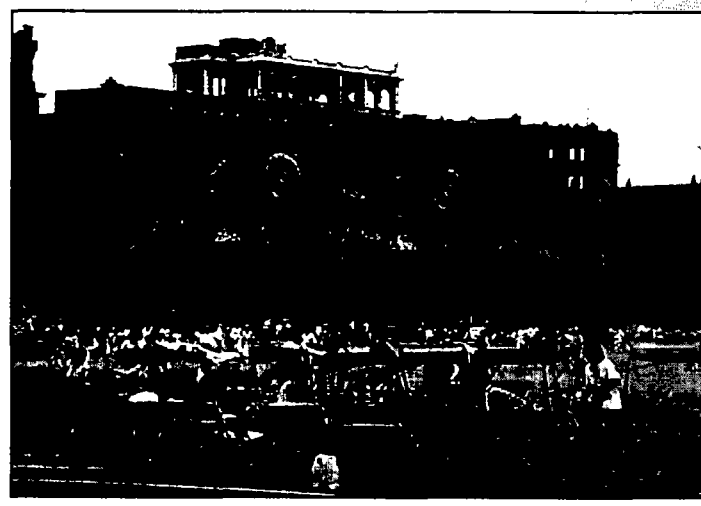
- What is the recent history of trade between the United States and Mexico?
- What effect has the North American Free Trade Agreement had on U.S.-Mexican trade?
- Is Mexico politically stable? Why or why not?
- Is Mexico economically stable? Why or why not?

Trading across the Borders

Made in Mexico

Mexico is America's third-largest trading partner—U.S. companies buy many products from Mexico, and Mexican companies buy lots of goods from the U.S. With the North American Free Trade Agreement (NAFTA) in effect, items coming to the U.S. from Mexico will no longer be classified as "imports." NAFTA is making trade with Mexico easier. It eliminates or reduces various tariffs between the two countries. It also eliminates earlier restrictions on U.S. trucking, banking, and insurance activity.

According to *Fortune* magazine, more than 87 percent of America's top manufacturers already have operations in Mexico. These include Ford Motor Company, Coca-Cola, and Westinghouse Electric. But in the mid-1990s, an uprising in Chiapas, followed by the assassination of Luis Donaldo Colosio, a presidential candidate, served as reminders that Mexico's political scene is unstable.



Decorated for Mexico's independence celebration, which takes place September 15–16, this bustling plaza in Mexico City reflects the nation's colorful past as well as its expanding economy.

Political turmoil is scaring away some foreign investors. But others say that it's all part of Mexico's move toward a more open democracy, and that the economy is basically stable. In recent years Mexico's rate of inflation has dropped from 160 percent to only 7 percent. This is a good sign that the economy is improving.

Transportation systems are good in some areas, but not so good in rural locations; however, Mexican workers and government officials alike are eager to attract U.S. business.

Made in America

The United States is a model of democratic stability for countries emerging from dictatorship and communist rule. American ways of doing business are firmly established, and political unrest—even political leadership—is not an issue when choosing a U.S. company from which to buy parts.

But political questions can affect the stability of individual companies. For instance, reductions in military spending are affecting many U.S. businesses. Some manufacturers who make parts—such as steering wheels—also rely on production of similar parts for the military. Companies that depend on defense contracts for most of their business are facing financial uncertainty, and military cutbacks will continue to increase as America's former enemies become its trading partners.

A robotic arm positions a front seat at the Corvette plant in Bowling Green, Kentucky.

U.S. technology has tended to outpace competition from Third World countries, but that's changing. As more and more foreign suppliers become able to provide high-quality goods for less cost, U.S. manufacturers will have to find new ways to compete in the marketplace.

Economic Puzzle Challenge, Part 3

Swipe this barcode to play:

Economic Puzzle Challenge, Part 3

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Are you going to buy from the U.S. or the Mexican company?

Ask students to read **Decision Time** and to analyze the costs and benefits of each choice. Have them respond in writing. Then swipe barcodes to view:

A. U.S. company

B. Mexican company

Option B leads to this question (which also appears in the *Student Guide*):

What now?

Ask students to discuss the choices and to decide which to select. Then swipe barcodes for the options you wish to view.

A. Order the steering wheels.

Analysis: Although an order will be placed, dollars must first be exchanged for pesos.

B. Exchange dollars for pesos to buy the steering wheels.

Analysis: Foreign goods and services are purchased with the currency of the country. (This option will play directly into the next question.)

Economic Puzzle Challenge, Part 3

Decision Time

The video has paused to challenge you with another question:

Are you going to buy from the U.S. or the Mexican company?

To answer this one, draw on your expertise in economics. You say you're no expert in econ? Think again! You've already discussed the pros and cons of buying the steering wheels from companies in the U.S. or Mexico. In economics, this is called a **cost-benefit analysis**. Answer the question by analyzing the costs and benefits of each choice. Use the following lines or a separate sheet of paper for your answer.

Consumer wants drive the market. If foreign companies can supply products at less cost, then it's up to U.S. sellers to find a way to compete in a free market.

☐ A. U.S. company

_____

_____

_____

☐ B. Mexican company

_____

_____

_____

Now that you have completed your cost-benefit analysis, the screen presents another question:

What now?

A. Order the steering wheels.

B. Exchange dollars for pesos to buy the steering wheels.

C. Learn to speak Spanish.

Discuss these options with your class, and then watch the video to see the results of your decision.

> ***"It is extraordinary how little barrier an unknown language makes between a willing buyer and a willing seller."***
>
> **—Nevil Shute, *A Town Like Alice***

Strong is good. Weak is bad. Right? This may hold true for sports or national defense or the economy, but is it also true for the dollar? The video asks:

> Does everyone in the U.S. benefit when the dollar is worth more than before?
>
> A. Yes
>
> B. No

Wait a minute! Before you answer, complete the following activity. It will help you make the right decision.

A "strong dollar" means that the dollar has risen in value relative to other currencies. In other words, one dollar buys more of a foreign currency than it did in the previous time period. People with dollars can buy more foreign goods with the increased amount of foreign currency they can purchase with their dollars. Foreign goods become relatively cheaper than domestic goods.

For foreign companies to buy U.S. property or invest in U.S. financial markets, they have to buy dollars. Suppose several French companies are purchasing property and building plants in the U.S. This activity will increase the demand for dollars, and the dollar will increase in price. What's the price of a dollar? In this case, the French companies are buying U.S. dollars with French francs. As the demand for the U.S. dollar increases, the price will increase, and the French companies will have to use more francs to purchase dollars; therefore, the dollar is now worth more francs. The dollar is said to have appreciated relative to the French franc.

Is this good news? Who benefits? Who suffers? Discuss these questions with the other members of the class. When you're finished talking things over, go back to the question that's been waiting on the screen. Does everyone in the U.S. benefit from a stronger dollar? Make your decision and explain your reasons on the lines provided or on a separate sheet of paper. Then watch the video to see the result.

_____

_____

_____

C. Learn to speak Spanish.

Analysis: Learning Spanish would be helpful but not essential.

Option B leads to this question (which also appears in the *Student Guide*):

Does everyone in the U.S. benefit when the dollar is worth more than before?

Ask students, before choosing an option, to read the rest of this page. Encourage them to consider the effect of the fluctuation in the exchange rate. Lead a whole-class discussion of their ideas, and then have them respond in writing.

Students should make the following points: French companies and consumers will find U.S. goods and services to be relatively more expensive than before. Because U.S. goods and services are now relatively more expensive than those produced in France, French companies and consumers may opt to forego U.S. goods and services in favor of French goods and services. The U.S. won't export as many goods and services to France. U.S. companies and consumers will find French goods and services relatively less expensive than before; they will opt to purchase more French goods and services and forego the relatively expensive U.S. goods and services.

Have students go back to the question on the screen and choose an option. Swipe the barcode of the option you wish to view.

A. Yes

B. No

Both options A and B will play through the introduction to **Economic Puzzle Challenge, Part 4**.

Further Discussion

Have students read **For More...** beginning on this page. Five questions are presented, with answers immediately following each one. You may wish to lead a whole-class discussion to ensure that students understand this material.

For More...

What is the first step in making a purchase from a firm in a foreign country? Before you can answer this question, you need to know something about **exchange rates**. An exchange rate is the value of one nation's unit of currency expressed in terms of another nation's unit of currency.

Do you know what the exchange rate of the U.S. dollar and the Mexican peso was in 1994?

Fluctuations in exchange rates affect the prices of goods that are traded between countries. One U.S. dollar was equal to about three Mexican pesos in 1994; however, by February 1995 the Mexican peso had depreciated relative to the dollar, and one dollar now equaled about five pesos. In other words, in 1994 one dollar bought about three pesos, but in 1995 one dollar bought about five pesos. Conversely, in 1994 it took only three pesos to buy one dollar, but by 1995 it took five pesos to buy one dollar.

What effect did the depreciation of the peso relative to the dollar have on American consumers of Mexican goods?

U.S. consumers could buy approximately two-thirds more goods from Mexico at the 1995 exchange rate. Looking at it another way, one U.S. dollar had about two-thirds more buying power in Mexico in 1995 than in 1994. This means Mexican goods had become relatively cheaper than U.S. goods.

What effect did the depreciation of the peso relative to the dollar have on U.S. producers?

U.S. companies that imported goods from Mexico benefited from the peso's decline in value because their dollars were now worth more pesos; however, U.S. companies that produced goods in competition with Mexican firms were hurt because Mexican goods were now relatively cheaper than the U.S.-produced goods. American consumers increased their purchases of Mexican-produced goods and bought fewer U.S.-produced goods.

What effect did the depreciation of the peso relative to the dollar have on Mexican consumers of U.S. goods?

Making Change

HAVE you heard the saying, "When in Rome, do as the Romans do"? This advice to follow local custom is true for anyone wanting to buy or sell goods in another country. As you saw in the video, you would need pesos to buy goods from Mexico. Here's a sampling of the currency you would need if you "traded" with other countries in the world:

COUNTRY	CURRENCY	COUNTRY	CURRENCY
Argentina	Peso	India	Rupee
Austria	Shilling	Indonesia	Rupiah
Brazil	Real (Ree-al)	Japan	Yen
Denmark	Krone	Netherlands	Guilder
Ecuador	Sucre	South Africa	Rand
Finland	Markka	United Kingdom	Pound
Greece	Drachma	Venezuela	Bolivar

Goods produced in the United States became relatively more expensive for Mexican consumers. Although in 1994 Mexicans could buy one dollar's worth of goods for three pesos, in 1995 the same dollar's worth of goods cost five pesos. Mexican consumers found Mexican goods to be relatively cheaper than U.S. goods and bought fewer U.S. goods.

What effect did the depreciation of the peso relative to the dollar have on Mexican producers?

Mexican producers benefited. Not only did U.S. consumers purchase more Mexican goods because of the favorable exchange rate, but Mexican consumers also substituted Mexican goods for the more expensive U.S. goods. (Exceptions were Mexican companies that used U.S.-produced capital or materials in the production process. Production costs rose for those firms.)

Economic Puzzle Challenge, Part 4

The final part of the Puzzle Challenge gives you information about how money is exchanged and how rates of exchange are set—that is, how much of one currency is required to buy another. The video closes with yet another challenge for the purchasing director.

PUT IT TOGETHER

Currencies are constantly fluctuating in value because of economic and political events. For example, when the Berlin Wall came down in Germany, the world breathed a sigh of relief. But the celebration didn't last long because the West German economy was suddenly burdened with the crumbling infrastructure, inefficient factories, and massive unemployment of East Germany. The German mark tumbled in value relative to other currencies. West Germany's central bank, the Bundesbank, raised the country's interest rates to stop the decline of the German currency, the deutsche mark. With interest rates higher than those of other countries, German financial investments paid a higher return than those in other countries. People from other countries recognized the opportunity to earn more interest, and they began demanding marks so they could buy German investments. The mark appreciated in value relative to other currencies.

A rise or fall in exchange rates can have a significant effect on the flow of trade between nations and on a nation's economy. When the exchange rate between currencies changes, it changes the relative prices of goods and services traded.

Economic Puzzle Challenge, Part 4

Both options A and B of the third question of **Economic Puzzle Challenge, Part 3** played through the introduction to **Part 4**. If you wish to review the introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 4

Economic Puzzle Challenge, Part 4 plays directly to the Side 6 menu (the barcode is also provided below).

The next barcode accesses a series of supplemental graphs dealing with topics covered in this module.

Supplemental Graphs

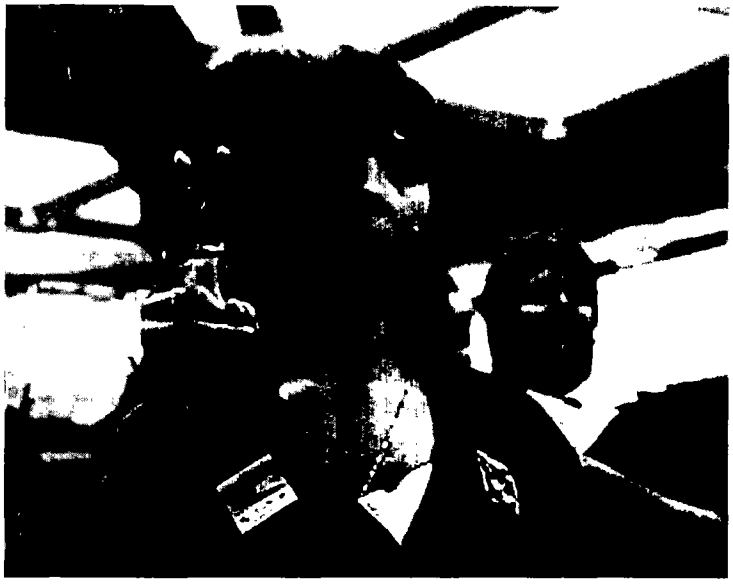
Previous Graph ***Next Graph***

Side 6 Menu

Quit Instructions

CLOSING

Acting as travel agents, students calculate exchange rates in **Put It Together**. Have them read the introductory paragraphs, and then lead them through **Trips-to-Go**. After they analyze the example of exchange rates involving dollars, marks, and francs, have them go to the next example.



Exchanging money, like any other market, involves buyers and sellers. On the floor of the Chicago Board of Trade, traders use hand signals to buy and sell currency.

Trips-to-Go

You've just become a travel agent for Trips-to-Go. Being a travel agent has many benefits, but it is also a highly competitive job. To maintain your client base, you have to be sure to arrange problem-free vacations at the best price. This involves a lot of research, especially for foreign travel. And a key part of that research involves exchange rates, for fluctuations in exchange rates can have a big impact on where your clients decide to travel.

Rosa Cedeño wants to spend a week in Europe. That's not a very long time, so she has stipulated that she wants to visit only one country, either France, Italy, or Germany. She enjoys sightseeing but is particularly fond of shopping. She has scheduled her vacation for September, seven months from now. You get busy on the arrangements right away. You plan an exciting stay on the French Riviera. The exchange rates for the three countries she requested are:

1 U.S. dollar buys 5.29 French francs
1 U.S. dollar buys 1,617.00 Italian liras
1 U.S. dollar buys 1.53 German marks

Five months pass and, as you're finalizing the plans for your client, you notice that exchange rates are substantially different:

1 U.S. dollar buys 6.50 French francs
1 U.S. dollar buys 1,500.00 Italian liras
1 U.S. dollar buys 2.00 German marks

The lira has appreciated relative to the dollar, and so prices in Italy will be relatively higher than they were five months ago. That means Italy is out. The franc and the mark have depreciated relative to the dollar, which means that prices in France and Germany will be relatively cheaper than five months ago. According to the following calculations, Germany is the better bargain.

$$\frac{5.29 \text{ francs}}{6.50 \text{ francs}} = \frac{\$1.00}{x} \qquad \frac{1.53 \text{ marks}}{2.00 \text{ marks}} = \frac{\$1.00}{x}$$

$$\frac{5.29 \text{ francs}}{6.50 \text{ francs}} = \frac{\$1.00}{\$1.22} \qquad \frac{1.53 \text{ marks}}{2.00 \text{ marks}} = \frac{\$1.00}{\$1.30}$$

Exports That Stay Home

THE largest single category of services [that the U.S.] exports is travel—especially tourism—which totaled $56.5 billion in 1993, or about 30 percent of all services exported that year. But that doesn't mean that Americans spent this much money traveling abroad; rather, it means that foreign travelers spent that sum staying in hotels or sightseeing throughout the United States. Nothing was really "exported," but because foreigners paid Americans for a "product" made in the United States, their purchases were analogous to importing American goods and thus were recorded as U.S. exports. Conversely, when Americans went abroad, they "imported" $42.3 billion of travel services.

—Susan Dentzer, "On the Economy: Exporting the Truth on Trade," *U.S. News & World Report* (April 4, 1994)

The dollar will now buy 30 percent more goods in Germany than it would have bought five months ago, but only 22 percent more goods in France. It would be wise to reconsider your client's vacation and look into Germany instead of France.

Do you understand how the proportions on the preceding page were used to calculate the percentage change in the value of the dollar? Use such proportions to determine the best destination for your next client.

Akim Malazar is interested in visiting Asia, having already traveled extensively throughout Europe. His lifelong goal is to see the world, but with such a lofty goal, he has to watch his budget. You suggest China, Japan, or Hong Kong as particularly interesting and educational vacation spots. Your client is open to all three, so you propose a plan for each option. The current exchange rates are:

1 U.S. dollar buys 8.43 renminbi
1 U.S. dollar buys 98.90 yen
1 U.S. dollar buys 7.73 Hong Kong dollars

When he travels, Akim shops at open-air markets for fresh fruit and handmade crafts.

Five months pass. As you're finalizing your client's plans, you notice the exchange rates have changed as follows:

1 U.S. dollar buys 6.50 renminbi
1 U.S. dollar buys 97.00 yen
1 U.S. dollar buys 6.87 Hong Kong dollars

Calculate the percentage change between the dollar and each of the other currencies. Then decide where Akim should spend his vacation—where would he get the most for his money? Do your calculating and write your answers on the following lines or on a separate sheet of paper.

_____

_____

_____

_____

_____

Answers:

$$\frac{8.43 \text{ renminbi}}{6.50 \text{ renminbi}} = \frac{\$1.00}{\$0.77}$$

$$\frac{98.90 \text{ yen}}{97.00 \text{ yen}} = \frac{\$1.00}{\$0.98}$$

$$\frac{7.73 \text{ Hong Kong dollars}}{6.87 \text{ Hong Kong dollars}} = \frac{\$1.00}{\$0.88}$$

The U.S. dollar has depreciated least against the Japanese yen.

SUMMARY

Have students read **Net Gain**. Review the four content statements, and encourage students to identify real examples for each statement.

NET GAIN

Now that you've completed "Build You a 'Vette?" you know a great deal about money. You have learned how it functions, what factors affect its value, and how its worth is determined in the international market. In addition, you have learned about the costs and benefits associated with the importation of parts needed for production. Your understanding of the concepts taught in this lesson will help you be a more valuable employee, manager, or business owner in your future career.

1. **Money serves as a medium of exchange, a unit of account, and a store of value.** Jackie observed these economic concepts first-hand while stranded on a tropical island. The only good that functioned as a medium of exchange was the necklace—it was the only good that met all five characteristics of money. Purchases on the island became much more convenient when prices could be measured in terms of necklaces. The necklaces also allowed the islanders to make immediate purchases as well as to save for future ones. The functions of money benefit you in much the same way. You can use your skills to earn money, and then you can spend it on any goods you want or save it for large purchases.

2. **Foreign exchange rates affect the amount of goods and the number of services people can buy in the global marketplace.** The value of the dollar relative to other currencies determines the value of U.S.-produced goods relative to foreign-produced goods. In the role of travel agent, you carefully tracked exchange rate fluctuations and suggested a vacation spot where your client could purchase the most goods and services for his dollars. The exchange rate of the dollar relative to foreign currencies has a direct effect on you because much of your clothing, most of your electronic equipment, and even some of the food you eat comes from other countries.

3. **Money is more efficient than barter in conducting foreign exchange.** What if you had to trade a U.S. car to acquire a Japanese car? U.S.-produced cars aren't as popular in Japan as Japanese-produced cars are in the U.S. Would-be traders would probably have difficulty finding a coincidence of wants. Perhaps a jet plane could be traded for Japanese cars. But what if a U.S. trader wanted 100 cars and the jet was worth 200 cars? It would be difficult to trade half a jet. Barter requires both a coincidence of wants and divisibility. The use of money eliminates these difficulties of barter exchange, and it provides you with more choices in the goods you buy.

> ***"Money never remains just coins and pieces of paper. It is constantly changing into the comforts of daily life."***
>
> **—Sylvia Porter, American economist and writer**

4. **Both costs and benefits exist in foreign trade.** Although price is an important consideration, it isn't the only factor to be considered when making a purchasing decision. As a savvy businessperson, you must consider other costs, such as transportation or warehousing. You must consider the reliability of the companies that seek to do business with you. In dealing with foreign suppliers, you must consider the economic and political stability of the countries involved. After you have gathered the pertinent information and carefully weighed the costs and benefits, you can feel confident in your decision.

Trading on the Rim

TURN toward the Pacific rim and you're turning toward one of the most vital areas of the world to the U.S. economy. Pacific rim countries border the Pacific Ocean and include Japan, Hong Kong, Thailand, and Australia.

According to Senator Barbara Boxer of California, the Pacific rim is the largest and fastest growing market in the global economy. U.S.-Pacific rim trade is expected to double in the next 15 to 20 years. In the Los Angeles region alone, Asian and other Pacific rim firms employ more than 63,000 workers.

More than 200,000 regional jobs are supported by the movement of goods through the ports of Los Angeles and Long Beach. They are critical components of our national economy. In fact, 25 percent of all U.S. waterborne international trade moves through the ports, representing $116 billion in trade each year. The ports have joined forces on a $4 billion, 2,000-acre terminal expansion program. Completion of the program will result in a dramatic expansion between the ports' cities and the Pacific rim.

The value of that trade is estimated to reach $253 billion by the year 2010. Employment linked to this trade is also expected to grow from 2.5 million to 5.7 million jobs. Further, the growing trade will generate nearly $20 billion in additional federal revenue by 2010.

—**Senator Barbara Boxer, "Statements on Introduced Bills and Joint Resolutions,"** ***Congressional Record* (June 30, 1994)**

BUILDING ON SUCCESS

▶ IMAGINE your class is going into business using computers to design bumper stickers. Some people use bumper stickers to express their opinions on political issues and current events. "Hungry? Eat Your Import" and "Say No to NAFTA" are bumper stickers that express viewpoints that are popular in certain circles. Suppose you got into a conversation with the driver of a car displaying one of these slogans. How would you explain the economic issues involved in the use of foreign parts? Write an essay or short story on this subject. Also design an original bumper sticker expressing your own opinion on this issue.

Be prepared to share your writing and your bumper sticker with the class.

▶ Because the use of money for trade is more convenient and efficient than barter, you might think that barter no longer exists. But barter is alive and well in big cities, small towns, and down on the farm. Even many companies, both large and small, barter in their businesses. Look for examples of barter in the area where you live. (Hint: Start by looking in the yellow pages under "Barter & Trade Exchanges.") Try to make an appointment to

EXTENSION

Three exercises appear in **Building on Success**. In the first, students are asked to consider issues of trade and to express their sentiments in essay or short-story format. They are also instructed to compose a bumper sticker expressing their personal opinion on the issue. *Their work should reflect the fact that although some workers lose when imports increase, other workers gain. And consumers always gain in selection and price.*

In the second exercise, students are asked to investigate a local barter organization and to prepare a written or oral report for class.

interview the manager of one of the exchanges. Here are some questions you might ask:

- Who uses this service? Businesses? Individuals?
- Do you charge a fee for participating?
- What kinds of goods or services are traded?
- How are the trades conducted? By voucher? On credit? Good-for-good?
- Are there any foreign participants?
- Does the exchange guarantee the quality of goods and services that are traded?

> ***"If I had my life to live over again, I would elect to be a trader of goods rather than a student of science. I think barter is a noble thing."***
>
> **—Albert Einstein, American (German-born) physicist**

Make up some questions of your own, and add them to the list. Then, after you conduct the interview, prepare a written or oral report on your findings. Be prepared to share your work with the class.

In the third exercise, students act as purchasing agents for a school district. Have students work either as individuals or in small groups to write letters to the school board expressing their opinions on a board policy that favors the purchase of U.S. goods and services. *Students should recognize that the school district can gain in selection and reduced costs when imports are considered on an equal basis.*

▶ Imagine that you recently accepted the position of purchasing manager for your school district. The purchasing policy states that when there is a price differential of less than 20 percent between U.S.- and foreign-made products of equal quality, the U.S. product is to be preferred. Write a letter to the school board explaining why you support or oppose this policy.

ASSESSMENT

Two types of assessment are provided for you to evaluate students' comprehension and mastery of the material presented in this lesson.

ON YOUR OWN

An assessment activity appears under the heading **On Your Own**. Evaluate their work on the basis of whether it shows an understanding of transaction costs and of the factors that influence the supply of and demand for foreign currency.

QUALITY CONTROL

ON YOUR OWN

You pick up the morning paper and read: "Swift Signs Contract with Mexican Tiremaker." As you scan the article, you discover that Swift Bikes, Inc., the largest manufacturer in town, has contracted with Tijuana Tires to supply all of its bicycle tires. The tires were formerly supplied by Hometown Treads, the second-largest plant in town. Swift has decided to switch suppliers because the Mexican tires cost less.

What impact would each of the following developments have on the decision to buy from Tijuana Tires?

Write your answers on the lines provided or on a separate sheet of paper.

1. A strong earthquake rocks Tijuana, causing widespread damage.

2. Gasoline prices suddenly increase.

3. The dollar plummets in value, and the peso soars.

4. The Mexican economy experiences 25 percent inflation.

Answers should make these points:

1. *An earthquake is likely to disrupt production and transportation of tires produced in Tijuana. This would increase the cost of purchasing tires from the local producer. Also, an earthquake in Mexico is likely to cause an increase in the demand for pesos, as Mexicans try to rebuild. This increased demand will reduce the supply of pesos and increase the price of pesos. The dollar will buy fewer pesos; therefore, Mexican tires will become relatively more expensive.*
2. *An increase in gasoline prices would increase transportation costs. This would represent an increase in transaction costs of purchasing the tires from the Tijuana producer.*
3. *When the dollar depreciates relative to the peso, the dollar buys fewer pesos. This will make Mexican-produced tires relatively more expensive than U.S.-produced tires.*
4. *With the general level of prices in Mexico increasing 25 percent, if the price of Mexican tires has increased at the rate of inflation, the tires will be relatively more expensive than the local tires (provided there has been relatively less inflation in the U.S. economy). Another possibility is that, in an effort to control inflation, interest rates will increase in Mexico. This will make Mexican investments more attractive to foreign investors, and the demand for pesos will increase. This will raise the price of pesos and make the Mexican tires relatively more expensive than the locally produced tires.*

Assessment-Track Questions

Besides appearing in the *Student Guide*, the questions under the heading **In Class** are contained on a special assessment track of the videodisc for this module. Using the appropriate disc side, you can access each question by swiping its bar-code. Each question is presented as a voice-over to part of a video program that students previously watched. The video will provide students with valuable cues, enabling them to generalize previously learned material to new situations.

Assessment Question 1

1. Money's most important function is to serve as a medium of exchange. In a modern economic system, money enters into almost every market transaction. Without money, people would have to trade goods for goods, as in a barter economy; and one trader better have exactly what the other trader wants, or the exchange will be very costly or will not occur. Money can also serve as a store of wealth, as does gold, stocks, bonds, paintings, real estate, etc.

Assessment Question 2

2. It would decrease the ability of Mexican citizens to make purchases of goods and services, especially those manufactured outside Mexico. Mexican citizens who want to buy imports—for example, a Harley Davidson motorcycle or an IBM computer—must pay for the import in the currency of the country that is exporting it. A peso devaluation means that each peso is worth fewer dollars than before; therefore, it takes more pesos to obtain the dollars needed to buy the imported motorcycle or computer.

In Class

The following questions should be answered while you watch a special section of the videodisc that your teacher will play for you. Write your answers on the lines provided or on a separate sheet of paper.

1. Money has various functions. How is money a medium of exchange? How is money a store of wealth?

2. The value of one currency, relative to another, may decrease sharply. This happened when the Mexican peso experienced a sharp devaluation in 1995. How would this affect the amount of goods and services that Mexican citizens can buy in the global marketplace?

Currency markets are hectic enough, but can you imagine this place if barter, and not money, was the principal medium of exchange? Why is money more efficient than barter in conducting foreign trade?

Over the past 25 years, international trade, both exports and imports, have become increasingly important to the U.S. economy. What are some of the benefits and costs of trading with firms in other countries?

Assessment Question 3

3. *Money facilitates easy transactions. In a barter economy, in which goods are directly traded for other goods, the costly matching of trading partners is required. A seller of wheat who wants to buy sugar must find a seller of sugar wanting to buy wheat, or a series of transactions would be required to obtain the sugar. The seller of wheat may first have to trade for potatoes, then trade the potatoes for an ax, and finally trade an ax for some sugar. The efficiency of the economy suffers as the efforts of the wheat grower are diverted from growing wheat into a long string of barter transactions. A money exchange economy would allow the wheat farmer to sell wheat for money and to use the money to buy sugar. Converting wheat to sugar is therefore easy; each party obtains what it desires, and the sugar grower is free to concentrate on sugar cultivation.*

Assessment Question 4

4. *Trade among firms of different countries allows each to specialize in the production of those goods that each produces at the lowest opportunity cost. If one country can produce some goods and trade with another country that produces other goods at a lower opportunity cost, both countries can benefit from the exchange. However, sometimes international trade can have high transaction costs, such as language barriers and cultural or legal differences. The less developed roads between Amarillo, Texas, and Durango, Mexico, will increase the transaction cost of the steering wheel exchange.*

SIDE 6
GRAPHICAL DATABASE BARCODES

(Use "step still" function or barcodes below to advance within categories.)

Step Back

Step Forward

Elasticity

Role of Profits

Product Markets

Consumer Behavior Theory

Production Theory

Foreign Exchange Markets

Human Resource Market

Nonhuman Resource Market

Aggregate Supply & Demand

Loanable Funds Market

SIDE 6
TEACHER-TRACK BARCODES

Government Policy and Price Stability

Price Stability and the Economy

Options to Control Inflation

About the Puzzle Challenge

Facts on Monetary Policy

Behind the Debate *(audio only)**

*Swipe any other barcode to restore video.

ECONOMICS® at Work

Module 2, Lesson D

DON'T PUSH, LOUIE!

ECON BRIEFING

How many times have you heard your parents or grandparents talk about the "good old days"? Your eyes probably glazed over with boredom as they reminisced about the days when a bottle of Coke was 10 cents, a gallon of gas cost seven cents, and a movie was only a nickel. But what about wages and salaries in those nostalgic yesteryears? Did your grandparents work for $1 an hour or less? Most likely they did, but they probably don't talk about that part of the story—it might spoil the rosy picture of the past they're trying to paint.

Years ago both prices and wages were lower. Over time both have risen. Today people pay more and earn more. Why has this occurred? Is "inflation" the reason? And speaking of inflation, is it always bad? How does the government measure inflation? Do economists know what causes it? Can they predict it and control it? Finally, is the 10-cent Coke that your grandmother enjoyed while she was sitting on the hood of a '56 Chevy the same product that you enjoy today? This lesson focuses on inflation, an important issue that affects the value of the money in your pocket.

WHAT YOU'LL LEARN IN THIS LESSON

- Not all individual price increases can be described as inflation.
- Inflation reduces your purchasing power, whereas wage increases and interest earnings boost your purchasing power.
- Unanticipated inflation will be harmful to lenders and less harmful to borrowers.
- Inflation can occur when the economy tries to "overspend" or when the increased costs of doing business are passed on in the form of higher prices.
- Certain national economic policies can contribute to inflation, whereas other policies can be used to combat inflation.

2 CLASS PERIODS

Materials

This lesson uses the videodisc (or videotape) program **Don't Push, Louie!** To complete the activities, students may use the following items: recent issues of newspapers and newsmagazines; calculators.

INTRODUCTION

This lesson introduces students to the concept of inflation. Students examine how the government defines and measures inflation, and they examine the causes of inflation. In addition, students learn to distinguish between anticipated and unanticipated inflation and to analyze national economic policies that affect the level of inflation.

GOALS

Students will be able to demonstrate their understanding of the impact of inflation on purchasing power and interest rates. They will develop their ability to read and analyze current information about the macroeconomy.

Objectives

Upon completing this lesson, students will be able to:

- explain what inflation is and how it is measured
- demonstrate why inflation reduces purchasing power
- understand the major effects of unanticipated inflation and describe examples of it
- identify possible causes of inflation
- describe national economic policies that can contribute to inflation and policies used to combat inflation

Lesson Description

The focus of this lesson is inflation. Students will follow the story of Ann as she borrows money from Louie to replace a broken camera. This illustration is used to show the impact of inflation on purchasing power and interest rates and to demonstrate the possible impact of fiscal and monetary policies on inflation.

Before showing the video, urge students to think about their own definition of inflation.

Key Terms

Prepare a poster listing the **Econcepts**, or write these key terms on the chalkboard.

PREVIEW

Ask students to read **Econ Briefing**, including **What You'll Learn in This Lesson** and **Payback** (pages 83–84). Explain to students that there are many common misconceptions about inflation. One is the idea that all price increases constitute inflation. Brainstorm with students why this misconception is common. Encourage them to think of examples when some individual prices have gone up while others have gone down.

Introduce the **Econcepts**, and give contextual examples of each. Ask students to refer to them as needed during the lesson.

Payback

When you complete this lesson, you will know which facts and figures you need in order to make sense out of news about the economy. You will know what to listen for in the speeches of politicians. It is important for you to know where political candidates stand on economic issues. By knowing their positions, you can make decisions that are best for you when you cast your vote. For example, will you vote for someone whose policies will lead to inflation—higher average prices for the goods and services you want?

Your understanding of the macroeconomy, the "big picture," will pay off by enabling you to answer critical questions: How will this national economic policy affect me? My neighbors? My country?

Econcepts

cost-push inflation—inflation that results when increases in the overall cost of making and selling goods and services are passed on to consumers in the form of higher prices

demand-pull inflation—inflation that results if consumers, businesses, or government tries to spend beyond the economy's capacity to produce

fiscal policy—changes in government spending and taxes that influence the level of output, employment, and prices

inflation—an increase in the average level of prices for the entire economy

monetary policy—changes in the money supply that alter interest rates and influence the level of output, employment, and prices

POWER UP

Is it true that what goes up must come down? What about the prices you pay for the goods and services you buy? Do prices always go up and never come down? Or do some prices rise while others fall or stay the same?

Suppose you were to make a list of all of the goods and services you purchased in a typical week. You could call this list your "market

basket." What would be on that list—pizza, concert tickets, gas, milk, software, haircuts, ham sandwiches?

Use the space provided or a separate sheet of paper to list as many of the goods and services as you can remember purchasing during the past week; also list the prices you paid for them. Compare your list with your classmates', and discuss any significant differences.

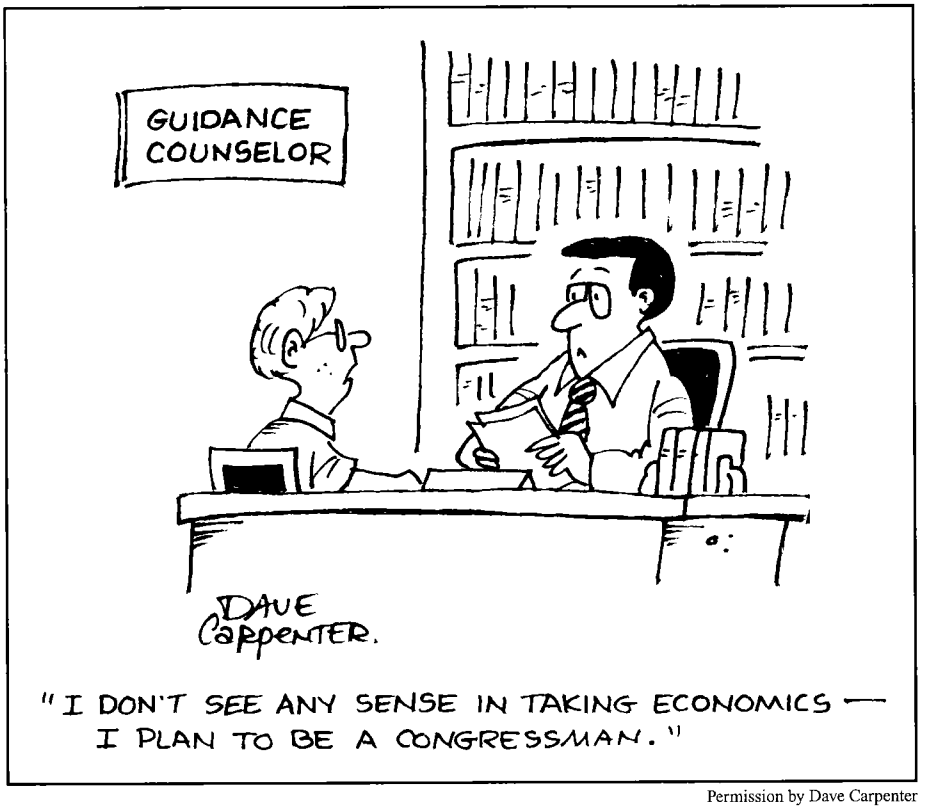
Making a Market Basket

	Good or Service	Price
1.		
2.		
3.		
4.		
5.		

Have students read the first three paragraphs of **Power Up**. The third paragraph contains instructions to the **Making a Market Basket** activity. Point out that by constructing their own market baskets they can get a feel for how the government collects data and measures inflation. Ask students to work as individuals to complete the activity.

Use whole-class discussion to explore any significant differences in the items or prices that students list. Emphasize that households are diverse and therefore it should not be surprising that the makeup of individual market baskets varies. Ask students to remember these differences as they look at the next section of the lesson, which deals with how the government measures inflation.

If you were to keep track of the prices of the items in your market basket over time, you would see that prices do change. For instance, the price of pizza at your neighborhood restaurant may fall if a new pizza place opens and starts offering two-for-one specials to drum up business. Or prices at the gas pump could rise if your state legislature votes to increase the tax on a gallon of gasoline. And what about the prices you pay for groceries? The price of lettuce might soar because of extensive flooding in California. On the other hand, the price of milk could drop if dairy farmers began giving cows a new hormone that stimulates milk production.



Permission by Dave Carpenter

The federal government's Bureau of Labor Statistics (BLS) collects price information on an imaginary market basket for a family. In this basket are such things as food, fuel, housing, and medical care—the items an average family wants. Even though some prices may fall over time, in

Even in just one year, inflation can make some goods, such as a camera lens, considerably more expensive.

most years the average price for goods and services in this market basket has gone up. This is because some prices, particularly those for medical care and housing, have gone up more than other prices have declined.

Another reason the average price of a market basket has risen is that the government collects data on exactly the same items in the basket year after year. This doesn't allow for the possibility that a real family might substitute a less expensive item for one whose price goes up. For instance, if the price of a canned ham increases, a real family may choose Spam or hot dogs for its market basket instead of continuing to buy the ham. The fictitious family represented by the imaginary market basket keeps buying the same items, even when prices increase.

The information on changes in the average price of a market basket over time is used to create the **Consumer Price Index** (CPI). This index shows the percentage change in a typical bundle of goods—like the list you compiled for your own market basket. So if you hear on the news that "the CPI rose 2% last year," it means the average price of an average bundle of goods for an average family increased 2%.

What choices does a consumer have if inflation is 2%? Suppose you earn $100 a month after taxes from your part-time job. You spend the $100 on gas, books, video games, and an occasional movie and popcorn with your little brother. After 2% inflation, the same selection of goods and services will cost you $102. But what if you don't have the additional $2? If you try to spend the same $100, you will find that the 2% inflation has decreased your purchasing power to $98 ($100 minus $2). If you can't get your boss to give you a 2% raise, you will have 2% less in goods and services as a result of the inflation. You can pay more or have less. Those are your choices.

> ***"Inflation makes balloons larger and candy bars smaller."***
>
> **—David L. Kurtz, American educator and business writer**

Take a few moments to review your understanding of percentages and how they are used to indicate the impact of inflation. Use a calculator, and complete the problems on the lines below or on a separate sheet of paper. A formula and a sample problem are provided to help you get started.

Figuring Inflation

Have students continue reading **Power Up** through the instructions to the **Figuring Inflation** activity. Go over the formula provided, and do the sample problem with the class. Then have students complete the activity.

Whole Value x Percentage Change = Change in Purchasing Power

In this formula, "Whole Value" refers to original value, before inflation or before additional income from interest earnings or a wage increase.

If a change in purchasing power results from inflation of a certain percentage, then the change in purchasing power must be subtracted from the whole value. Inflation reduces the whole value of purchasing power.

If a change in purchasing power is the result of interest earnings or a wage increase of a certain percentage, then the change should be added to the whole value. Income from interest or higher wages increases the whole value of purchasing power.

Sample problem: If you earn $5 an hour and receive a 5% increase in your wage, what will your wage be after the increase?

$$\$5 \times 0.05 = 0.25$$

Because of the 5% pay raise, your purchasing power changes by 25 cents, and you now have a total of $5.25 in purchasing power.

Now try these:

1. The change in the purchasing power of $1,000 after 2% inflation will be:

_____

This 2% inflation will reduce the purchasing power of your $1,000 to:

_____

Answers:

*1. $1,000 x 2% = **$20***

*$1,000 – $20 = **$980***

2. The change in the purchasing power of $1,000 after 4% inflation will be:

_____

*2. $1,000 x 4% = **$40***

This 4% inflation will reduce the purchasing power of your $1,000 to:

_____

*$1,000 – $40 = **$960***

3. If you lend a friend $1,000 at 2% interest (assume "zero" inflation for this problem), your interest earnings will be:

*3. $1,000 x 2% = **$20***

_____

This 2% interest will increase the purchasing power of your $1,000 to:

*$1,000 + $20 = **$1,020***

_____

4. If you lend a friend $1,000 at 4% interest (assume "zero" inflation for this problem), your interest earnings will be:

*4. $1,000 x 4% = **$40***

_____

This 4% interest will increase the purchasing power of your $1,000 to:

*$1,000 + $40 = **$1,040***

_____

VIDEO CORE

Ask students to read **Take a Closer Look** through the discussion of demand-pull and cost-push inflation. Then discuss the main topics and clarify any points they do not understand. Make sure they grasp the distinction between the two types of inflation.

TAKE A CLOSER LOOK

Now you know that inflation reduces your purchasing power and that interest earnings and wage increases boost your purchasing power.

But what happens if you have interest earnings or a wage increase at the same time the economy is experiencing inflation? If you earned 4% interest on your savings and the inflation rate was also 4%, your purchasing power would actually stay the same. You would not gain anything from your interest earnings because inflation reduced your purchasing power by an equal amount.

What does this mean if you lend money for a living? Meet Lillian the loan officer. She must try to anticipate what the rate of inflation will average over the term of any loan she makes. She must use information about expected future inflation to determine what interest rate to charge on the loan. The interest rate she charges will have to be more than the anticipated or expected rate of inflation in order for the bank's purchasing power to increase—in other words, for the bank to make money on the loan.

The prices of specific goods and services change all the time according to market conditions. Some prices increase; some prices decrease. Inflation is an increase in the average price level of the entire economy.

Lenders aren't the only people who need to try to anticipate inflation. As a borrower, if you agree to pay 4% interest during a period of 4% inflation, you actually won't lose any purchasing power while paying off your loan. This is good news for you.

Anticipating inflation is important. Think of inflation as an "economic virus." The virus is spreading when the average price level rises. There are two main inflation infections that plague the

economy: demand-pull and cost-push. Knowing a little about these types of inflation will help you recognize the symptoms and anticipate when inflation might be about to spike upward.

Demand-pull inflation results when consumers, firms, or the government try to spend beyond the economy's capacity to produce. The economy is "working too hard" attempting to produce the goods and services to satisfy this demand. The economy heats up with an inflation fever.

How can you tell if the economy is working too hard and anticipate this demand-pull inflation? One way would be to spot something that will cause more spending when the economy is already producing at maximum output. Suppose the government starts new spending programs to build roads, bridges, and prisons—or Congress approves a tax cut that allows people to keep more of the money they earn. The tax break will mean households have more to spend on food, housing, entertainment, education. If the effects of the tax cut are not offset by less government spending, this could indicate the economy soon may be "working overtime."

Cost-push inflation occurs when increases in the overall cost of making and selling goods and services pushes up the price level. What should you look for if you want to try to anticipate this type of inflation? Anything that adds to the cost of doing business for a lot of firms would be a clue—for example, tougher worker-safety and environmental regulations, or a new law requiring all businesses to purchase an expensive health insurance policy for every employee. These added business costs might be passed on to the consumer, and the higher prices that result would signify cost-push inflation.

Cost-push inflation occurs when the overall cost of making and selling goods and services increases. These cost increases are passed on from firms to consumers in the form of price increases. Increased costs push up prices. That's cost-push inflation.

Now that you know how the government measures inflation, how inflation influences your purchasing power, and how to spot the two types of inflation, get ready to watch "Don't Push, Louie!"

Introduction to the Video

Have students read **What You'll See on the Screen**. Ask students, as they prepare to watch the opening segment of the video, to think about their own expectations regarding inflation.

What You'll See on the Screen

Do you remember the last time you tried to replace a favorite item that you had lost, outgrown, or worn out? Did you have to search everywhere for a replacement, or did you easily find what you were looking for? What about the price of the new item—was it higher, lower, or the same as the old one?

In the opening segment of "Don't Push, Louie!" you will meet Ann, who is facing a similar dilemma. She must replace an expensive piece of equipment that she uses in her business. Will she have to pay more than its original cost? If the equipment price is higher, is that inflation?

In the Economic Puzzle Challenge sequence, you will follow Ann's story as she goes through the process of securing a loan to pay for her new equipment. You will see how anticipated and unanticipated inflation will affect Ann (the borrower) and Louie (the lender). Then you will explore how the government's spending, taxing, and monetary policy can be used to influence the level of prices and employment in the economy.

Video-based Activities

Have students read the first two paragraphs of **Talk This Over**. Then start the videodisc (Side 6), and swipe this barcode to play:

Don't Push, Louie!
(introductory segment)

The video will pause on a screen with the following questions (which also appear in the *Student Guide*).

Which happens first?

- **Higher prices create an appeal for higher wages.**
- **Higher wages contribute to higher production costs and prices.**

If your wage rate rises 5% during a period of 4% inflation, what has happened to your purchasing power?

Have students respond in writing. Encourage discussion when they finish.

Responses should include these points:

When the economy is fully employed, any additional spending can cause demand-pull inflation. When this happens, workers know they may be successful asking for higher wages to produce the desired goods and services. These higher wages may then contribute to higher production costs and prices.

Talk This Over

"Surprises" can add a spark to life. It's nice to get an unexpected phone call from an old friend. It's even nicer to find the shoes you desperately wanted (but couldn't afford) marked "50% off" on the clearance rack. Surprises like those are always welcome.

But what about surprise inflation? Will it be agreeable to all or agonizing for some?

When the video pauses, several questions about expected and unexpected (surprise) inflation appear on the screen. Answer them on the lines provided or on a separate sheet of paper, then discuss your responses with the other members of your class.

Which happens first?

- Higher prices create an appeal for higher wages.
- Higher wages contribute to higher production costs and prices.

According to Thayr Richey, Strategic Development Group, Inc., there are four ways the government can attempt to control inflation. The government can raise interest rates, decrease government spending, regulate businesses, or impose wage and price controls.

If your wage rate rises 5% during a period of 4% inflation, what has happened to your purchasing power?

If you lend a friend $100 at 4% interest during a period of 5% inflation, who benefits?

How are expectations of inflation different from actual inflation? On what are these expectations based?

If your wage rate rises 5% during a period of 4% inflation, you will have a net increase of 1% in your purchasing power.

Swipe the next barcode for additional questions (which also appear in the *Student Guide*):

If you lend a friend $100 at 4% interest during a period of 5% inflation, who benefits?

How are expectations of inflation different from actual inflation? On what are these expectations based?

Again have students respond in writing. When all have finished, encourage them to share and discuss their answers.

They should respond along these lines:

If you lend a friend $100 at 4% interest during a period of 5% inflation, your friend will benefit but you will lose purchasing power.

Expectations of inflation may be either higher or lower than actual inflation. Expectations may be based on the possibility of changes in fiscal or monetary policy or on past inflation.

Further Discussion

Have students read **For More...** beginning on this page. When they have finished, review the definitions of fiscal and monetary policy and ensure that students can recognize the signs of a healthy economy: real GDP growth of 2% to 5%, unemployment of 6% or less, and an inflation rate of less than 3%.

For More...

Reading and watching the national news can provide lots of information about how the economy is doing now and what economic surprises may be coming down the road. What should you look for?

Three types of information will give you clues about the economy, including the likelihood of inflation. Look for news stories and articles that fall into these categories:

- **Information on changes in key economic indicators**—Economic statistics—for example, the rate of change in Gross Domestic Product (GDP), which is the total value of all goods and services produced in the U.S.; the Consumer Price Index (CPI); and the unemployment rate—provide signs of the nation's economic health. Although statistics on how the economy performed last month or last quarter cannot perfectly predict the future, they reveal important trends. A healthy economy operating at or near full capacity should have an annual GDP growth rate of 2% to 5% and a national unemployment rate of 6% or less. The ideal situation would be to meet these goals while holding inflation (CPI) between 0% and 3%.

- **Information on changes in fiscal policy (the federal government's plan for spending and taxation)**—If policymakers are faced with GDP rising at an annual rate of 4% to 5% and unemployment at 6% or less, they may be concerned about demand-pull inflation. Fiscal policy may be used to decrease spending and output. Signs of a "restrictive" policy designed to restrain the economy would be decreases in spending programs or increases in taxes. If policymakers are faced with falling GDP, unemployment greater than 6%, and no hints of inflation, fiscal policy may be used to increase spending and output. Signs of an "expansionary" policy designed to stimulate the economy would be increases in spending programs or decreases in taxes.

- **Information on changes in monetary policy (the manipulation of the money supply by the Federal Reserve, the central banking system of the United States)**—When the Federal Reserve changes the money supply, the greatest impact is on the level of interest rates. When interest rates change, households and businesses may respond by changing their spending plans. If you see in the news that the Federal Reserve is taking steps to increase the money supply and lower interest rates, this would be a sign that policymakers want to stimulate the economy through monetary policy. Lower interest rates will encourage households to borrow money to buy cars, homes, and other expensive items. Businesses will use lower-cost loans to buy new equipment and to expand stores and factories. Lower interest rates mean more spending.

Two Supply-Side Views

"I do believe in supply-side economics."

—Ronald Reagan, 40th president of the United States

"Waiting for supply-side economics to work is like leaving the landing lights on for Amelia Earhart."

—Walter Heller, American economist

On the other hand, suppose the Federal Reserve is moving to increase interest rates and decrease the money supply. This would indicate it is trying to reduce spending through monetary policy. Higher interest rates will discourage households and businesses from borrowing. Higher interest rates mean less spending.

To check your understanding of fiscal and monetary policy, read the following three news items and answer the questions about them. Use the space provided or a separate piece of paper. Be prepared to discuss your responses with your classmates.

Ask students to read the newspaper articles in this section and to work as individuals or in groups to answer the questions. When they have finished writing, encourage whole-class discussion.

Students should first analyze the three short articles.

Companies Are Resisting Pressure to Boost Wages

Pressure is building on corporate America to bid up wages to attract skilled workers increasingly in short supply. But companies are resisting the pressure with numerous tactics, from turning away business to hiring the unskilled.

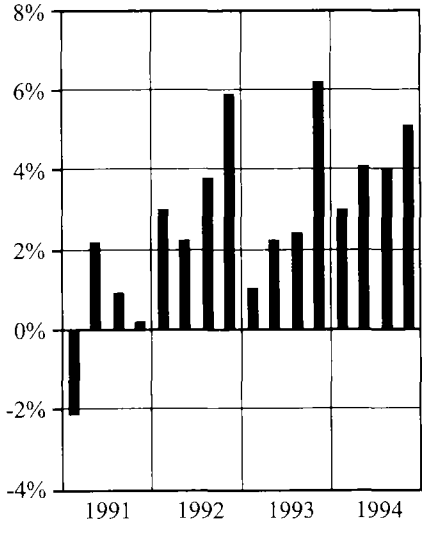
How long this effort can keep hourly wages from rising faster than inflation no one knows, especially if the economy continues to grow at a brisk pace. Already, wages are breaking through in a few cities, most spectacularly in Phoenix. But in most regions, executives say, companies are holding the line.

—Adapted with permission of the *Belleville (Ill.) News-Democrat* (October 4, 1994)

Real GDP Revised Upward

WASHINGTON—Real GDP was revised upward to reflect growth of 5.1% in the fourth quarter, the Commerce Department reports.

Percentange change at annual rate



—Adapted with permission of the *Wall Street Journal*, ©1995 Dow Jones & Company, Inc.; all rights reserved worldwide

Jobless Rate Remains 4.7% in Metro Area

ST. LOUIS—Unemployment remained at 4.7% during July and August in the St. Louis metropolitan area, including the metro-east, and an analyst expects the rate to fall slightly during September.

According to information released Tuesday by the Missouri Division of Employment Security, there were 62,000 unemployed people in the area during August.

—Adapted with permission of the *Belleville (Ill.) News-Democrat* (September 21, 1994)

They should respond: All three articles provide information indicating the economy is healthy. Real GDP is growing at 5.1%; local unemployment is at 4.7%; and signs of wage pressure indicate the economy is near or at full employment. According to these data, the economy appears to be at full employment; therefore, a chance of demand-pull inflation exists, if spending continues to increase.

- Suppose you happened to read these three articles on the same day. Do the data indicate a healthy or a sluggish economy? Why? Is there any chance of demand-pull inflation? Why or why not?

Students should then analyze the next two articles.

Now read the next pair of news items.

Economy Rises at Sickly Rate

Consumers Worry about Jobs

Associated Press

WASHINGTON—The economy is losing momentum just as President Bush gets ready for the final three months of his re-election campaign. Growth slowed to a crawl from April through June, as Americans worried about losing their jobs were keeping their wallets closed.

The nation's gross domestic product, the broadest measure of the economy's health, grew at an anemic 1.4 percent seasonally adjusted annual rate during the second quarter, the Commerce Department said Thursday.

That's less than half the 2.9 percent rate in the first three months of the year, which itself was considered weak for a recovery period.

Also, revisions in data back through 1989 showed that the slump in economic output in 1990 and 1991 was longer and more severe than had been reported.

—Reprinted with permission of the Associated Press (July 31, 1992)

Jobless Rate Up in Metro-East

By Sarah Fike

The metro-east unemployment rate in June shot up to 9.7 percent from 8.5 percent in May, largely because of students and new graduates entering the job market. The rate also is up from the June 1991 rate of 8.3 percent.

"Stagnant labor force conditions, coupled with the annual influx of student job seekers, caused unemployment to climb," said Dennis Hoffman, labor market economist for the Illinois Department of Employment Security.

The unemployment rate for the St. Louis metropolitan area—which includes St. Clair, Madison, Monroe, Clinton, and Jersey counties in the metro-east—rose to 7.3 percent in June from 6.7 percent in May. The June 1991 rate was slightly higher at 7.4 percent.

The metro-east unemployment rate twice this year has reached levels higher than the June rate—10.4 percent in January and 10 percent in February.

—Reprinted with permission of the *Belleville (Ill.) News-Democrat* (July 31, 1992)

> ***"They took a poll on Madison Avenue and here is what people in the advertising industry are worried about most: inflation, unemployment, crime, and armpits...not necessarily in that order."***
>
> **—Robert Orben, American humorist**

They should respond:

Two statistics used to show the economy is sick are the "anemic" rate of growth in GDP (1.4%) and the jump in the local unemployment rate from 8.5% to 9.7%.

- What two economic statistics are used in this article to show that the economy is "sick"?

- If the economy were "healthy," what would you expect the numerical value of these statistics to be?

If the economy were healthy, GDP growth would be from 2% to 5% and unemployment would be 6% or less.

- How would monetary policy be used to give the economy a "shot in the arm"?

Monetary policy could be used to increase the money supply to push interest rates down to stimulate spending.

Economic Puzzle Challenge, Part 1

Ann must replace her broken camera. What are her options? If she has the money, she's got it made. But what if she doesn't? Should she wait and save until she can afford a new camera? No. This is not a wise choice because she is a photographer and must use the equipment to do her job. No camera means no work. If she uses a credit card, she will probably have to pay an interest rate of more than 15%

Economic Puzzle Challenge, Part 1

Before swiping the barcode, ask students to read the introductory paragraph to **Economic Puzzle Challenge, Part 1**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 1

The interest is Louie's way of covering his opportunity cost. This amounts to 4% interest, which Louie expects to make on the loan, plus 2% to cover anticipated inflation. At 2% inflation, Louie's interest income—his purchasing power—on the loan will actually be $80.

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Which do you believe is true?

Assist students in analyzing each of the possible responses. Then swipe barcodes for the options you wish to view.

A. Louie is hoping for higher-than-expected inflation.

Analysis: Not true. Louie will be hurt, not helped by higher-than-expected inflation. He has built his assumption of 2% inflation into his plans by charging a total of 6% interest. Unanticipated inflation will mean he should have charged Ann more to achieve the desired increase in purchasing power of at least 4%.

B. Ann is hoping for higher-than-expected inflation.

Analysis: True. Ann will gain from unanticipated inflation. If inflation is 4% instead of 2%, the $120 in interest that she agreed to pay would cost her only $40 in actual purchasing power a year later. If Louie had anticipated this surprise inflation, he would have charged Ann more to maintain his purchasing power.

C. Inflation hurts all market participants; neither wants it.

Analysis: Inflation in general hurts all market participants. It increases risk on long-term contracts, causing less investment and growth, and it increases administrative costs. But during unanticipated inflation, borrowers are better off than lenders.

Further Discussion

Ask students to read **For More...** beginning on this page. Use the last question to

on her balance. If she can borrow the money at a lower rate, this might be her best option—at least she can get back to work. But what impact will unanticipated inflation have on her plans? Think about this question as you watch the video.

Decision Time

At the end of the first part of the Puzzle Challenge, the video asks you the following question.

Which do you believe is true?

Use the space provided or a separate sheet of paper to mark your choice and to explain your answer. Then watch the video to see the results of your decision.

☐ A. Louie is hoping for higher-than-expected inflation.

_____

_____

_____

☐ B. Ann is hoping for higher-than-expected inflation.

_____

_____

_____

☐ C. Inflation hurts all market participants; neither wants it.

_____

_____

_____

For More...

What do you think about the deal between Ann and Louie? Ann borrows $2,000 for one year and agrees to pay Louie 6% interest. With the loan, she will be able to replace her camera and get back to work. And she avoids the more expensive type of credit—the dreaded "plastic." Does she benefit from this arrangement? Sure she does.

Is it a good deal for Louie? If he puts his money in a certificate of deposit (a savings account with certain restrictions), the bank will pay him only 5%. Ann is willing to bump his return up to 6% if he lends her the money instead. Does Louie stand to benefit under these circumstances? You bet!

Inflation in general does hurt everyone in a market, because we share costs as a society. Inflation means increased risk on long-term contracts, so there's less investment and growth.

Both the borrower and the lender go into the deal expecting to gain. The outcome will change only if there is "unanticipated" or surprise inflation.

Louie expects 2% inflation. He has built this assumption into the deal. If the actual inflation rate turns out to be 6%, what should Louie have charged Ann for the loan? Why? Discuss this with your classmates.

launch a discussion, and check their understanding of the impact of unanticipated inflation. Emphasize that if unanticipated inflation pushed the actual inflation rate to 6%, Louie would wish he had charged Ann 10% interest. Conclude the discussion by pointing out the damaging effects of inflationary psychology. In such an environment, lenders are tempted to add "inflation premiums" to the rates they charge to offset the possibility of surprise inflation.

Government spending on goods and services—like new roads and bridges—is one part of "aggregate expenditures." When an increase in spending outpaces the economy's capacity to produce, demand-pull inflation occurs.

Economic Puzzle Challenge, Part 2

Because surprise inflation affects all market participants, it may be best not to be surprised. How can you avoid this? When you see news about national economic policies, ask yourself these two questions:

- Will this policy cause households, businesses, or the government to spend more when the economy is at full capacity?
- Will this policy increase the costs of producing and selling goods and services?

Economic Puzzle Challenge, Part 2

Ask students to read the introductory paragraphs to **Economic Puzzle Challenge, Part 2**. Then swipe this barcode to play:

Economic Puzzle Challenge, Part 2

If the answer to one or both of these questions is yes, then surprise inflation may be ready to pop up. Keep in mind that unexpected inflation is bad news for the lender. Consider this as you watch the next part of the Puzzle Challenge.

During unanticipated inflation—and* unanticipated *is the key word here—borrowers are better off compared to lenders, in terms of purchasing power.

Decision Time

The video asks you another question:

> Which unanticipated national economic policies would benefit Louie?

Use the following lines or a separate sheet of paper to explain your choice, and then watch the video to see the results.

☐ A. A large public infrastructure program to build roads and bridges

_____

_____

_____

☐ B. Tough new work-safety and environmental legislation

_____

_____

_____

☐ C. A Federal Reserve increase in money supply and decrease in short-term interest rates

_____

_____

_____

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

Which unanticipated national economic policies would benefit Louie?

Assist students in analyzing each of the possible responses. Then swipe barcodes for the options you wish to view.

A. A large public infrastructure program to build roads and bridges

Analysis: No. If the economy is near full employment, an increase in government spending, part of aggregate expenditures, could outpace the economy's capacity to produce, causing demand-pull inflation. This unanticipated inflation would not benefit Louie.

B. Tough new work-safety and environmental legislation

Analysis: No. Stricter work-safety and environmental regulations would add to the cost of doing business for many firms. These added costs would probably be passed on the consumer, and the higher prices could result in cost-push inflation, which would not benefit Louie.

C. A Federal Reserve increase in money supply and decrease in short-term interest rates

Analysis: No. If the economy is close to full employment, then the increased spending resulting from an increase in the money supply and lower interest rates could cause demand-pull inflation. This would not benefit Louie.

☐ D. A tax increase on business income

Economic Puzzle Challenge, Part 3

Decision Time

As you saw in the video, the use of fiscal and monetary policies that cause households, businesses, or the government to spend more can contribute to unanticipated inflation. Why would such policies be used if they lead to inflation?

After hearing arguments from Representatives such as Eva M. Clayton (D–North Carolina), members of Congress vote on a spending bill. A reduction in government spending would reduce aggregate spending on a national level, and fewer new jobs would be created.

The answer lies in the timing. Policies that stimulate spending, such as a public infrastructure program, are only inflationary if the economy is already operating at close to full capacity.

If the economy is "sick," then it is not at full capacity. Workers are unemployed, and factories and machinery are idle. Under these conditions, increased spending and output will be just what the doctor ordered. Appropriate monetary and fiscal policy can lead to higher GDP and lower unemployment.

The bad news is that, as the economy picks up and moves closer and closer to full capacity, you will need to peek around every corner for signs that inflation is about to break out.

The screen challenges you with another question:

> Which national policies would create more jobs in the short run?

D. A tax increase on business income

Analysis: Yes. If the increase in taxes reduces aggregate spending and leads to lower-than-expected inflation, this would benefit Louie. But the lower level of economic activity might increase unemployment. (This option will play directly into **Economic Puzzle Challenge, Part 3**.)

Economic Puzzle Challenge, Part 3

Option D of **Economic Puzzle Challenge, Part 2** played through the introduction to **Part 3**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 3

Video-based Questions

The video will pause on a screen with the following question (which also appears in the *Student Guide*).

> **Which national policies would create more jobs in the short run?**

Ask students to read **Decision Time**. Assist them in analyzing each of the possible responses. Then swipe barcodes for the options you wish to view.

> ***"A nickel goes a long way now. You can carry it around for days without finding a thing it will buy."***
> **—Anonymous**

"We can do something about the supply side! If people paid less taxes, they'd take home more of their paycheck, save more—want to work. If businesses paid less in taxes and government regulations, they would invest more. Hire more people, expand the supply of goods and services. So you'd reduce inflation and unemployment at the same time."

Use the space provided below or a separate sheet of paper to mark your choice and to explain your answer.

☐ A. Increase in money supply and decrease in short-term interest rates by Federal Reserve

_____

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_____

☐ B. Increase in minimum wage

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☐ C. Cut in government spending to achieve a balanced budget

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_____

A. Increase in money supply and decrease in short-term interest rates by Federal Reserve

Analysis: Yes. Increasing the money supply and decreasing short-term interest rates would increase spending and economic activity, which would create more jobs. If the economy is already at full capacity, this could lead to demand-pull inflation. (This option will play directly into **Economic Puzzle Challenge, Part 4**.)

B. Increase in minimum wage

Analysis: No. This would not create jobs. An increase in the minimum wage would prompt more people to look for work but might discourage employers from hiring these workers. The overall effect of a higher minimum wage would most likely be higher unemployment.

C. Cut in government spending to achieve a balanced budget

Analysis: No. Decreasing government spending would not create more jobs in the short run. Decreases in government spending would lower aggregate spending and reduce economic activity. This kind of policy is sometimes used when policymakers think that the economy is expanding too quickly and that there's danger of demand-pull inflation.

Economic Puzzle Challenge, Part 4

Talk This Over

Every time you buy a good or service, borrow money, or look for a job, you may feel the impact of national economic policy. How?

If the Federal Reserve is using monetary policy to curb inflation, you could pay a higher interest rate when you borrow money to buy a home or a car or to finance your education. This may sound confusing, but paying higher interest rates today will prevent them from going even higher in the future! Why? Lenders like Louie will see the move by the Federal Reserve as a sign that inflation will be held in check. And because of this, when Louie decides what interest rate to charge, he can safely plan on the one- or two-percent figure. He will not be tempted to bump his rate up to cover the possibility of unanticipated inflation. That action would fuel "inflationary psychology."

As you watch the final part of the Puzzle Challenge, think of other ways you could be affected by monetary and fiscal policy designed to prevent inflation or to stimulate spending. When the video pauses, the following questions appear on the screen.

> How does fiscal and monetary **expansion** affect inflation and short-term unemployment?
>
> How does fiscal and monetary **restraint** affect inflation and short-term unemployment?

Discuss the outcome of each policy with your classmates, then summarize your conclusions on the lines provided here or on a separate sheet of paper.

1. The impact of fiscal expansion (policies to increase aggregate spending) on inflation and short-run unemployment will be:

_____

_____

_____

_____

2. The impact of monetary expansion (policies to increase the money supply and lower interest rates) on inflation and short-run unemployment will be:

_____

_____

_____

_____

Economic Puzzle Challenge, Part 4

Option A of **Economic Puzzle Challenge, Part 3** played through the introduction to **Part 4**. If you wish to review this introductory part of the video, swipe the following barcode.

Economic Puzzle Challenge, Part 4

Video-based Questions

The video will pause on a screen with the following questions (which also appear in the *Student Guide*).

How does fiscal and monetary *expansion* affect inflation and short-term unemployment?

How does fiscal and monetary *restraint* affect inflation and short-term unemployment?

Have students read **Talk This Over**. Encourage brainstorming in small groups, then have students work individually to answer the questions in writing.

They should respond: Fiscal and monetary expansion will tend to decrease short-term unemployment by stimulating spending and economic activity and by creating jobs. If the economy is at or close to full employment, these policies can trigger demand-pull inflation.

Fiscal and monetary restraint will tend to increase short-term unemployment by decreasing spending and economic activity. If the economy is operating at full capacity, this restraint can lower inflation.

Side 6 Menu

Quit Instructions

CLOSING

Have students read **Put it Together**, including the "Background" and "Task" sections of **Why Should *I* Care about Monetary Policy?** Assign students to small groups, and give each group one or more of the "Roles." Encourage students to brainstorm in their groups, and then have them complete the activity in writing. Emphasize the need to identify a typical spokesperson.

Students may respond along these lines: To combat inflation, the Fed will pursue monetary restraint, decreasing the money supply and increasing interest rates. This will make loans more expensive for all groups in the activity. This includes home loans, car loans, education loans, and consumer credit loans. With loans more expensive, spending for these items will decline. This will be a disadvantage for members in groups likely to spend on these items and for those producing these items. The only group that may see an advantage in higher interest rates is the AARP. Senior citizens are frequently not in the market for a home or car loan; therefore, they welcome the possibility of higher returns on their savings. Bankers will not necessarily welcome higher interest rates, but they will be favorable to policies that reduce the possibility of unanticipated inflation. Monetary restraint will lead to a slowing economy and rising short-term unemployment, another disadvantage for most of the groups.

3. The impact of fiscal restraint (policies to reduce aggregate spending) on inflation and short-run unemployment will be:

_____

_____

_____

_____

4. The impact of monetary restraint (policies to decrease the money supply and raise interest rates) on inflation and short-run unemployment will be:

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_____

PUT IT TOGETHER

CHANGES in fiscal and monetary policy may mean different things to different people. Your neighbor, the mother of three children, may be thrilled if Congress passes a $500-per-child tax credit. Workers at McDonnell Douglas or Lockheed may not be so happy if the federal government cuts spending on defense. Grandparents, classmates, or coworkers may all view falling interest rates or surprise inflation in a different light.

Most people benefit from a growing economy, low unemployment, and stable prices; nevertheless, monetary and fiscal policies affect different groups in different ways.

The following activity will help you understand how people's attitudes toward monetary policy depend on their individual points of view.

Why Should *I* Care about Monetary Policy?

Background: The Federal Reserve System (the Fed) is the central bank of the United States. One of its most important jobs is to control the money supply. When the Fed decreases the money supply, interest rates tend to go up and banks make fewer loans. When the Fed increases the money supply, interest rates tend to go down and banks make more loans.

Task: Assume that in recent months the Fed has been taking steps to fight inflation. Your teacher will assign you one or more of the roles listed below. In the space provided or on a separate piece of paper, outline the advantages and disadvantages of the Fed's policy, as your group would see it. Would your group support the Fed's action? Identify the type of person who could serve as a spokesperson for your group—an individual who could summarize its views and present them in public, perhaps testifying before Congress or explaining them to interested citizens, such as your class.

Roles:

- Your group consists of members of the Homebuilders Association.

- Your group consists of mutual-fund managers who buy and sell stocks on Wall Street.

- Your group consists of members of the American Association of Retired Persons (AARP).

Reuters

Is inflation just around the corner? Federal Reserve Board chairman Alan Greenspan seems to think so, as he peers out a doorway while waiting to testify before the Senate Budget Committee in January 1995. Even though Greenspan told senators that the economy appeared to be slowing, many economists expected him to raise interest rates in his continuing effort to fight inflation.

- Your group consists of Democratic members of the U.S. House of Representatives who represent lower-income districts.

- Your group consists of young, middle-class, married couples.

> ***"Inflation is like a crowd at a football game. No one is willing to be the first to sit down."***
>
> **—Jimmy Carter, 39th president of the United States**

- Your group consists of members of the United Auto Workers, the primary union for employees of U.S. car manufacturers.

- Your group consists of high school seniors and college students.

- Your group consists of members of the Consumers Union, which seeks to protect the interests of consumers.

- Your group consists of members of the Commercial Bankers Association.

- Your group consists of mayors and city council members from areas experiencing building booms and significant economic growth.

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_____

NET GAIN

IN "Don't Push, Louie!" you saw that Ann (the "borrower") and Louie (the "lender") reacted differently to the possibility of inflation. What should you look for in news about the economy and economic policies to know if inflation is likely?

Understanding how to find and analyze economic indicators will help you every time you buy a good or service, borrow money, or look for a job.

Try to remember these points:

1. **Inflation reduces the purchasing power of money.** As prices increase, people are able to buy fewer goods and services with a given amount of money. This means that inflation reduces the value of money. Lower inflation rates will increase the value of money.

2. **The government measures inflation by using the Consumer Price Index.** The Consumer Price Index (CPI) reflects changes in the average price of a typical market basket of goods and services. The CPI may not always be a perfect measure of inflation. The index does not reflect the possibility of substitutions in the market basket. And some households, such as those of the elderly, may experience cost-of-living increases that exceed the rate of change in the CPI.

3. **There are two types of inflation: demand-pull and cost-push.** Demand-pull inflation occurs when the economy attempts to spend beyond its capacity to produce. This type of inflation can be controlled by fiscal or monetary policies designed to reduce aggregate spending. Cost-push inflation occurs when the cost of producing and selling goods pushes up the price level. Policies to reduce taxes or minimize governmental regulations may decrease cost-push inflation.

SUMMARY

Have students read **Net Gain**. Review the three content statements with the class, and encourage students to identify real examples for each statement.

EXTENSION

Assign different members of the class the activities in **Building on Success**. Encourage students to apply the concepts they have learned in the lesson, and remind them to refer to the **Econcepts** (page 84) and other parts of the lesson whenever necessary.

BUILDING ON SUCCESS

- ▶ Use library or other resources to locate a current newspaper or magazine article about a change (or proposed change) in fiscal policy. Write a letter to your senator or congressman about the change. Outline the reasons why you support or oppose the move.

- ▶ Use the library to locate a current newspaper or magazine article about a change in monetary policy. Write a letter to the chairman of the Federal Reserve Board about the policy change. Outline the reasons why you support or oppose the change. Make sure to emphasize in your letter the impact of the policy on you or your family.

- ▶ Choose a local business with which you are familiar. Try to make an appointment to interview the owner. Prepare a list of questions designed to find out how the business is affected by unanticipated inflation. Use the information from the interview, as well as other resources, to write a report. Share your report with the class.

- ▶ Call or visit three banks or savings and loans in your area. Gather the following information:
  - the current interest rate they charge on new car loans
  - the current interest rate they charge on home-mortgage loans
  - the current interest rate they pay for a $2,000 investment in a one-year certificate of deposit

  What do you think will happen to each of these interest rates if anticipated inflation rises to 5% from a current level of 3%? Summarize your findings in an oral report, and present it to your class.

ASSESSMENT

Two types of assessment are provided for you to evaluate students' comprehension and mastery of the material presented in this lesson.

On Your Own

Have students read the newspaper article in this section and answer the questions about it. This material may be used either as a homework assignment or as an in-class activity.

QUALITY CONTROL

On Your Own

Do you think you can spot the signs that inflation may be lurking around the corner? Would you know a recession if you saw one? Can you tell the difference between monetary restraint and monetary expansion?

Demonstrate your understanding of these concepts by reading the following article and answering the three questions about it. Use the space provided or a separate piece of paper for your responses.

Economy Continues to Buzz

WASHINGTON—The nation's unemployment rate matched a 4½-year low in February as business created nearly a third of a million new jobs. Wall Street soared to record levels, hailing the news as a sign the long economic recovery was not faltering.

"This is an economy that won't lie down," said Norman Robertson, an economics professor at Carnegie Mellon University in Pittsburgh.

The Labor Department said Friday the jobless rate dropped 0.3 percent to 5.4 percent last month. It was the biggest one-month drop since last May.

The Dow Jones Industrial Average rose 52.22 points to a record 4,035.61.

Employers added 318,000 new jobs to nonfarm payrolls, the most in three months and mostly in the service industries. And the report showed stronger job growth in both December and January than was initially estimated.

President Clinton said it signaled continued economic vitality, which he attributed to his administration's economic policies.

"The fundamentals of this economy overall are healthier than they have been in a generation," he told a news conference, noting that 6.1 million new jobs had been created since he took office.

While many analysts agreed the report showed the economic expansion remained robust as it was about to enter its fifth year, some expressed concern it could nudge the Federal Reserve into boosting short-term interest rates an eighth time in 13 months to keep inflation under control.

The Fed has engineered seven interest-rate boosts since February 1994 in an attempt to cool the economy and thus keep inflationary pressures from overheating. Rates have doubled, from three percent to six percent.

The results have been mixed. The interest-sensitive housing sector and consumer spending, particularly on big-ticket durable goods, have slowed in recent months. But business investment and industrial production remain strong.

Hourly earnings were unchanged at an $11.31 average in February after jumping by six cents an hour a month earlier. The length of the average work week stood at 34.5 hours last month, down 0.4 hours from January.

—Adapted with permission of the Associated Press (March 11, 1995)

1. According to this article, is the economy about to slide into a recession? Why or why not?

_____

_____

_____

_____

2. Are there any warning signs of demand-pull inflation? If so, what are they?

_____

_____

_____

_____

Answers:

1. *The economy, as described, is not close to a recession. The unemployment rate has dropped to 5.4%. Business investment and production remain strong.*

2. *There are warning signs of inflation. The article contains this quote: "some expressed concern it [economic expansion] could nudge the Federal Reserve into boosting short-term interest rates... to keep inflation under control."*

3. *According to the article, the Fed has implemented monetary restraint by raising interest rates seven times thus far in an effort to cool the economy and to reduce spending.*

Assessment-Track Questions

Besides appearing in the *Student Guide*, the questions under the heading **In Class** are contained on a special assessment track of the videodisc for this module. Using the appropriate disc side, you can access each question by swiping its barcode. Each question is presented as a voice-over to part of a video program that students previously watched. The video will provide students with valuable cues, enabling them to generalize previously learned material to new situations.

Assessment Question 1

1. *Some causes of cost-push inflation are an increase in the prices of raw materials, a decrease in sizes of crops, and a reduction in workers' productivity. These factors, which increase firms' production costs and reduce aggregate supply, are passed on to consumers as higher prices. Demand-pull inflation occurs when the amount of money that purchasers of goods and services want to spend increases more rapidly than the supply of goods and services.*

Assessment Question 2

2. *Because of inflation, lenders are repaid in dollars that are worth less than they used to be. To guard against this decrease in purchasing power over time, interest rates on loans are based in part on the expected rate of inflation over the course of the loan. But if inflation turns out to be greater than expected, lenders lose and borrowers gain.*

3. According to the article, what kind of monetary policy is being implemented and what is it designed to do?

In Class

These questions should be answered while you watch a special section of the videodisc that your teacher will play for you. Write your answers on the lines provided or on a separate sheet of paper.

1. Inflation occurs when there is an increase in average price level. Decreases in aggregate supply result in cost-push inflation. Increases in aggregate demand result in demand-pull inflation. What are some main causes of cost-push and demand-pull inflation?

2. Louie is lending money at an interest rate that includes purchasing-power protection against inflation anticipated over the course of the loan. Why are lenders such as Louie hurt when actual inflation is greater than what was expected?

3. How is unemployment affected if demand-pull inflation occurs? What if cost-push inflation occurs?

4. Does the trade-off between inflation and unemployment occur with cost-push or demand-pull?

5. Government policies can influence aggregate demand and aggregate supply. How can government policies reduce inflation?

Assessment Question 3

3. Demand-pull inflation results when aggregate demand increases. More total exchanges occur, and more labor is hired to produce the additional output—unemployment decreases. Cost-push inflation results from a decrease in aggregate supply. Fewer total exchanges occur; firms produce less; and firms lay off workers—unemployment increases.

Assessment Question 4

4. The trade-off between inflation and unemployment occurs when demand-pull inflation takes place. If aggregate demand increases, prices increase and output increases, but unemployment decreases. In the short run, there's a trade-off: more inflation but less unemployment. On the other hand, if cost-push inflation occurs because of a reduction in aggregate supply, then both prices and unemployment increase. No trade-off occurs. This is the worst of both worlds.

Assessment Question 5

5. Government policies can reduce inflation by reducing aggregate demand or by increasing aggregate supply. To reduce aggregate demand, the government can decrease its own spending; increase income taxes, which reduces consumer spending; and increase interest rates, which reduces investment spending. To increase aggregate supply, the government may take a supply-side approach to stimulate the growth of real output. A supply-side policy favors certain incentives, such as reductions in personal and corporate taxes; the tax cuts are meant to stimulate effort, productivity, and investment so that real output will increase.

GLOSSARY

barter—the direct trading of goods or services among people

coincidence of wants—each party's having something that the other wants

cost-push inflation—inflation that results when increases in the overall cost of making and selling goods and services are passed on to consumers in the form of higher prices

demand-pull inflation—inflation that results if consumers, businesses, or government tries to spend beyond the economy's capacity to produce

divisibility—the ability to trade goods of different values

economic decision making—the process of weighing the possible costs (including transaction and opportunity costs) and the possible benefits linked to different alternatives; this process can be used to evaluate the different ways to buy a good or service

economic efficiency—a situation that occurs when the benefits of economic action outweigh the costs

exchange rate—the price of one country's currency as expressed in another country's currency

externalities—positive or negative side effects that result when some of the benefits or costs associated with the production or consumption of a product "spill over" to third parties other than the direct producers and consumers of the product

fiscal policy—changes in government spending and taxes that influence the level of output, employment, and prices

functions of money—money's uses as a medium of exchange, a store of value, and a unit of account

inflation—an increase in the average level of prices for the entire economy

market—the buying and selling of goods and services, or the place where this occurs

market failure—a situation that occurs when there is inadequate competition, lack of access to reliable information, resource immobility, externalities, and the need for public goods

medium of exchange—anything that serves as a tool for exchange and is acceptable, divisible, durable, portable, and relatively scarce

monetary policy—changes in the money supply that alter interest rates and influence the level of output, employment, and prices

opportunity cost—the highest valued alternative that must be given up because another option is chosen; if you spend the afternoon studying and your most desirable alternative was watching TV, then your opportunity cost or "missed opportunity" may be the chance to watch "Brady Bunch" reruns

store of value—the ability to retain buying power and liquidity

third-party costs—costs paid by a party who is neither the buyer nor the seller of a product

transaction costs—those costs, in addition to the price of the product or service, that must be considered when making a purchase; for example, a long-distance phone call to order a product

unit of account—the ability to express the market value of different goods and services

ADDITIONAL RESOURCES

BACKGROUND ON ECONOMICS

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Seiter, David M. *Teaching and Learning Economics.* Bloomington, IN: ERIC Clearinghouse for Social Studies/Social Science Education, 1989.

Walstad, William B., and John B. Soper, eds. *Effective Economic Education in the Schools.* Washington, DC: Joint Council on Economic Education and National Education Association, 1991.

Help with Using Technology

"Decision Maker's Guide to Laserdiscs and CD-ROMs." *Curriculum Administrator* 29:8 (1995).

Lookatch, R. "Computers and Cooperative Learning." *Executive Educator* 15:10 (1993), 18.

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U.S. Department of Labor, Bureau of Labor Statistics. *Monthly Labor Review.* Washington, DC: U.S. Government Printing Office. Monthly.

Organizations Providing Information for High School Economics Teachers

- Agency for Instructional Technology
  P.O. Box A
  Bloomington, Indiana 47402-0120
  (800) 457-4509

  (Call or write for information on *Understanding Taxes* and *Taxes in U.S. History.*)

▶ ERIC Clearinghouse for Social Studies/Social Science Education (ERIC/Chess)
855 Broadway
Boulder, Colorado 80302
(303) 492-8434

(Write for list of free materials. Custom computer searches and duplicate printouts of computer searches of social studies materials are available.)

▶ National Council on Economic Education
1140 Avenue of the Americas
New York, New York 10036
(212) 730-7007

(Ask for checklist of publications.)

▶ U.S. Federal Reserve Board

(Write the banks for instructional materials of the Federal Reserve system. Federal Reserve Banks also offer various educational services.)

- Board of Governors of the Federal Reserve System
Publications Services
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(312) 322-5112
- Federal Reserve Bank of St. Louis
Bank Relations and Public Information
411 Locust Street
St. Louis, MO 63102
(314) 444-8320
- Federal Reserve Bank of Minneapolis
Public Information Department
250 Marquette Avenue
Minneapolis, MN 55480
(612) 340-2446
- Federal Reserve Bank of Kansas City
Public Affairs Department
925 Grand Avenue
Kansas City, MO 64198
(816) 881-2402
- Federal Reserve Bank of Dallas
Department of Communications, Financial, and Community Affairs
400 South Akard Street
Dallas, TX 75222
(214) 651-6222

- Federal Reserve Bank of San Francisco
  Public Information Department
  101 Market Street
  San Francisco, CA 94105
  (415) 974-2246

Internet Resources

Economic Bulletin Board (EBB)
Gopher://una.hh.lib.umich.edu/11/ebb

Economic Education
http://unicorn.unomaha.edu/dept/econ/econed.htm

Economic Resources
http://soig.escr.bris.ac.uk.subjects/econ.html

Reach-Net
reach.ICEE.niu.edu

Resources for Economists on the Internet
This resource can be accessed through: *Shortcut to All Resources Link*
http://econwpa.wustl.edu/EconFAQ/EconFAQ.html

YaHoo's Economy Economics
http:/www.yahoo.com/Economy/Economics/

More Instructional Resources from AIT The Learning Source

Geography in U.S. History

Investigate the relationship between geography and history to help students place historical events and trends in the contexts of time and place. This award-winning video series for grades 9-12 demonstrates how knowledge of geography contributes to historical understanding and develops historical and geographical literacy. ***Geography in U.S. History*** is ten 20-minute video programs and a 100-page teacher's guide.

The U.S. Constitution

Examine how this 200-year-old document affects the rights of all citizens, even those under voting age. Show 7th-12th grade students why the U.S. Constitution is an enduring and fundamental document in the American heritage and in their own lives. Hosted by award-winning journalist Bill Moyers, ***The U.S. Constitution*** is six 30-minute video programs and a 44-page teacher's guide.

Workplace Readiness

Prepare today's learners for tomorrow's changing workplace with employability skills for the '90s and beyond. Empower 9th-12th grade and adult learners to take responsibility for their future by introducing the basic skills all workers need to succeed in today's competitive international marketplace: Problem Solving, Teamwork, and Self-Management. ***Workplace Readiness*** is a comprehensive one semester curriculum consisting of instructor's guides, learner's guides, assessment portfolios, student video programs, teacher training video programs, a Level I barcode videodisc, and computer software.

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A complete School-to-Work Transition implementation resource for educators, businesses, and communities. Explore the nature of the School-to-Work movement, introduce a model for implementing a School-to-Work program in your school or district, and take the first step toward drafting an action plan. ***The Road to School-to-Work*** is one 74-minute video program, one 136-page School Implementation Resource, and one 32-page workshop facilitator's guide in a vinyl album.

Mathemedia

Teach 7th-12th grade students to apply mathematic principles to real-world situations, by placing math in everyday and workplace contexts. ***Mathemedia*** is a comprehensive multimedia curriculum consisting of twelve instructional modules, each focusing on one key mathematical concept. ***Mathemedia*** consists of three Level I barcode-driven videodiscs, a linear version of the videodisc material on six videocassettes, and two annotated teacher's guides in a custom display case. Student guides are sold separately.

For more information on these and other resources, call AIT Customer Service at 800-457-4509.

Economics at Work is divided into five instructional modules, each organized around a central economic activity:

Producing **Exchanging** **Consuming** **Saving** **Investing**

Each ***Economics at Work*** teacher's guide contains:

- annotated student guide pages
- suggestions for implementing and directing student activities
- barcodes for accessing the interactive video segments
- barcodes for accessing "Assessment Track" questions
- barcodes for accessing "Teacher Track" instructional suggestions

Each teacher's guide lesson introduces an economic event and related concepts. The lesson then continues with either interactive videodisc segments and problem-solving challenges or written activities. Each lesson concludes with summary and assessment activities. The appendix to each teacher's guide includes a complete glossary of terms and an extensive resource list; a correlation to the National Council on Economic Education's *Scope and Sequence Guidelines, K-12;* and a barcoded database of charts and graphs available on the videodiscs.

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