The Economics Classroom
A Workshop for Grade 9-12 Teachers

An eight-part professional development workshop for high school economics teachers

Produced by Pacific Street Film Projects, Inc.
in association with the National Council on Economic Education
The Economics Classroom

is produced by
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Table of Contents

Introduction .......................................................................................................................1
  About the Workshop .......................................................................................................1
  About the Contributors .................................................................................................6
  Helpful Hints ..................................................................................................................12

Workshop 1. How Economists Think ............................................................................15

Workshop 2. How Markets Work ..................................................................................29

Workshop 3. The Government’s Hand ..........................................................................49

Workshop 4. Learning, Earning, and Saving .................................................................57

Workshop 5. Trading Globally .......................................................................................69

Workshop 6. The Building Blocks of Macroeconomics ..............................................81

Workshop 7. Monetary and Fiscal Policy ......................................................................91

Workshop 8. Growth and Entrepreneurship .................................................................107
About the Workshop

Overview

The Economics Classroom illustrates why economics is losing its reputation as “the dismal science.” Instead, economics can become one of the most relevant and stimulating courses taken in high school.

These teacher development workshops are intended for high school teachers of economics, many of whom have little or no background in the subject, to help them learn effective lessons and techniques for bringing this important and often misunderstood subject to their students.

The workshop consists of eight two-hour sessions with hour-long videos, each on a different topic that is covered in most high school economics courses. The workshops are organized along broad subject lines, illustrating how economists think, how markets operate, and how and why the government participates in the economy. Watching real classroom lessons, you’ll see students learning the basics of personal finance as well as a few things about wealth that they never knew before. Demonstrations and exercises designed by economic educators also cover the role of the entrepreneur and innovation in economic life, as well as the dynamics of international trade.

High school graduates will make economic choices all their lives in their roles as consumers, employees, entrepreneurs, savers, investors, and citizen voters. In the words of James Tobin, Nobel Laureate in Economics, “The case for economic literacy is obvious. High school graduates will be making economic choices all their lives, as breadwinners and consumers, and as citizens and voters. A wide range of people will bombard them with economic information and misinformation for their entire lives. They will need some capacity for critical judgment. They will need it whether or not they go to college.” (Quoted in The Wall Street Journal, July 9, 1986.)

The eight programs in The Economics Classroom cover the content areas of a typical high school economics course, including scarcity, markets, supply and demand, competition and monopoly, personal finance, the role of government, measuring economic performance, monetary and fiscal policy, and economic growth. The programs also cover the content of the 20 Voluntary National Content Standards in Economics.

Most important, the lessons in The Economics Classroom show how to bring economic concepts alive in the classroom. The philosophy behind this workshop is that students learn by doing. According to a Chinese proverb, “I hear and I forget; I see and I remember; I do and I understand.” When teachers and students approach the study of economics by doing something involving economic reasoning and economic behavior, they truly understand the ideas being taught and why those ideas are useful to them. Several of the lessons seen in the video programs appear in this workshop guide. Feel free to use them in your classroom.

The high school economics course should provide skills which will help high school graduates to compete in the global economy of the twenty-first century. The Economics Classroom provides a foundation to help teachers accomplish this important goal.

Workshop Format

Each workshop program is divided into several segments; each addresses a different aspect of a broad subject area and features actual in-classroom footage of teachers who are recognized for their skill in teaching economics. These classroom segments are accompanied by introductory and background information presented by Professor Timothy Taylor of Macalester College in Minneapolis, Minnesota, a leading economic educator and managing editor of the Journal of Economic Perspectives.

Each program also includes lesson plans and curriculum suggestions; interviews with teachers discussing their techniques, lesson plans, and pertinent experiences; and students reacting to the lessons in which they have just participated. Teachers and students comprise a diverse group in schools ranging from a private girls’ school in suburban New Jersey to public schools in and outside of cities like Atlanta and Denver to honors classrooms in Hawaii and an urban high school in New York City. Teachers can follow links throughout the workshop Web site at www.learner.org/channel/workshops/economics to learn more about a particular subject, find additional lesson ideas and exercises, and obtain additional information on the teachers and classes featured in this workshop.
Workshop Descriptions

Workshop 1. How Economists Think
This workshop illustrates why economics is much more than a bundle of concepts. Economics is a unique way of thinking that offers insights into the seemingly chaotic confusion of human behavior in a world of different values, resources, and cultures. In the video, teachers demonstrate the key ideas that constitute an economic way of thinking.

Workshop 2. How Markets Work
This workshop focuses on the laws of supply and demand and their effects on the allocation of resources. In the video, teachers use simulations and classroom demonstrations to illustrate the behavior behind supply and demand curves. They also demonstrate the importance of competition and the incentives created by profits.

Workshop 3. The Government’s Hand
This workshop demonstrates the positive role of government in a market economy and also explores why well-meaning government policies can fail. A simulation dramatically demonstrates how protection of property rights conserves and develops resources. An “economic mystery” is used to illustrate public-choice theory while a simulation shows how price ceilings and floors cause unintended consequences.

Workshop 4. Learning, Earning, and Saving
Effective lessons to teach personal finance are demonstrated in this workshop. Teachers use the “Millionaire Game,” the “Chessboard of Financial Life,” and a stock market simulation to show how concepts such as earning a living, spending, saving, investing, borrowing, and managing money are taught in a high school economics course.

Workshop 5. Trading Globally
The positive effects of voluntary trade and the harmful effects of protectionism are shown dramatically in this program. A “label-search” activity, a discussion on the worldwide ingredients in a candy bar, and a “banana wars” simulation all demonstrate the benefits of trade and the unintended negative consequences of protectionist policies.

Workshop 6. The Building Blocks of Macroeconomics
This workshop illustrates activities that teach about the basic measurement tools of any economy: gross domestic product (GDP), unemployment, and inflation. These measurement tools can seem abstract, but GDP and economic growth, unemployment, and inflation can have a profound effect on students’ future welfare, their job opportunities, the level of their prospective earnings, and the prices they will pay for the things they buy.

Workshop 7. Monetary and Fiscal Policy
Teachers use a lecture/discussion technique, demonstrations, and simulations to teach about the effects of monetary and fiscal policy on aggregate supply and aggregate demand. Students learn how government monetary and fiscal policies affect economic growth, unemployment, and inflation.

Workshop 8. Growth and Entrepreneurship
In the final workshop, students learn why the key to improving a nation’s standard of living is economic growth. Teachers illustrate the important factors that contribute to economic growth and how a market economy creates incentives that encourage entrepreneurship, innovation, and investment. The role of patents and copyrights in creating incentives for entrepreneurs is also covered.
About the Workshop, cont’d.

About the Lessons

Each session includes two economics lessons. In many cases, a version of the lesson is demonstrated by a teacher in the workshop video. In all cases, the content of the lesson relates to the content of the video program. Teachers are free to copy and use these lessons in their classrooms.

This is just a sampling of the lessons available to high school economics teachers. These lessons utilize an active-learning approach. Most of the lessons in this guide were previously published by the National Council on Economic Education (NCEE). They are not in the exact format in which they were originally published. For information on the publications of NCEE, call toll-free 800-338-1192 to obtain a catalog or view the online catalog at www.ncee.net.

The following lessons appear in this guide.

**Workshop 1. How Economists Think**

The Tragedy of the Commons  

Why Do People Trade?  

**Workshop 2. How Markets Work**

A Classroom Market for Crude Oil  

Shifts in Supply and Demand  

**Workshop 3. The Government’s Hand**

Property Rights Simulation  
by John S. Morton.

Price Floors and Ceilings  

**Workshop 4. Learning, Earning, and Saving**

How To Really Be a Millionaire  

The Chessboard of Financial Life  
About the Workshop, cont’d.

Workshop 5. Trading Globally
Working and Living Together: The Importance of Trade
by Harlan R. Day, from Trading Around the World: Introducing Economics Into the Middle School Curriculum,

The “Banana Wars” Lesson
by Elaine Schwartz.

Workshop 6. The Building Blocks of Macroeconomics
All About GDP

Who Is Hurt and Who Is Helped by Inflation?

Workshop 7. Monetary and Fiscal Policy
The Tools of Fiscal Policy

Money, Interest, and Monetary Policy

Workshop 8. Growth and Entrepreneurship
Mystery Nations

Can I Become an Entrepreneur?
About the Content

These workshops cover the 20 standards in the *Voluntary National Content Standards in Economics*. The standards covered by each workshop are listed below under the number of the workshop. Each standard is written in its entirety in the workshop chapter(s) in which it is covered.

**A Correlation of the Workshop Programs to the Voluntary National Content Standards in Economics**

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<td>19. Unemployment and inflation</td>
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<td>20. Monetary and fiscal policy</td>
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Project Director, Producers
Since the founding of Pacific Street Films (PSF) in 1969, Steven Fischler (project director and producer) and Joel Sucher (producer) have produced, directed, and written award-winning documentary films on a wide variety of historical, cultural, and political themes. Sucher and Fischler have been the recipients of numerous awards and grants, including Guggenheim Fellowships in Film, Emmy Awards, Cine Golden Eagles, and the John Grierson Award for Social Documentaries.

Fischler and Sucher have chronicled both overlooked historical movements (Free Voice of Labor: The Jewish Anarchists and Anarchism in America), and misunderstood ones (Blue Helmets: The Story of United Nations Peacekeeping and In Search of Peace). PSF produced a documentary on the forgotten story of how Jewish professors who had fled Nazi Germany ended up teaching at historically black colleges in the South, From Swastika to Jim Crow, which had its broadcast premiere on PBS in 2001. PSF also has produced long-form biographical sketches on Frankie Lymon (I Promise to Remember, 1983), directors Martin Scorsese (Martin Scorsese Directs) and Oliver Stone (Oliver Stone: Inside/Out). Fischler and Sucher have produced a 12-part telecourse/series, Exploring the World of Music, for Annenberg/CPB; a five-part series, The Warrior Tradition, and many other broadcast documentaries for both public and commercial television.

Coordinating Producer, Web Site Designer
Clark Bortree has worked with Pacific Street Films since 1996, both as coordinating producer, director and Web designer. He designed and programmed The Economic Classroom Web site.

Director of Content
John S. Morton is vice president for program development at the National Council on Economic Education. He was president of the Arizona Council on Economic Education from 1997 to 2001. Mr. Morton has over 35 years’ experience as a high school economics teacher, college professor, college administrator, and economic education writer and presenter. He is the author or co-author of more than 30 economics publications.

Educational Consultant, Writer, and Series Host
Timothy Taylor is managing editor of the Journal of Economic Perspectives, an academic journal published quarterly by the American Economic Association based at Macalester College in St. Paul, Minnesota. Taylor received his Bachelor of Arts degree from Haverford College in 1982 and a master’s degree in economics from Stanford University in 1984. He then worked as an editorial writer for the San Jose Mercury News for two years, before starting the Journal of Economic Perspectives in 1986. He has won awards for teaching economics at Stanford University and the University of Minnesota. He has recorded several economics courses for the general public through the Teaching Company.

Board of Advisors
Brett Hardin is a social studies teacher who began teaching economics in 1996. Hardin has a B.A. in history from Wesleyan University and an M.S. in secondary education from the University of Pennsylvania. He is Georgia Teacher of the Year for 2002.

Donna McCreadie is an economics and honors economics teacher at Temple City High School in California. She received her bachelor’s degree at California State University, Los Angeles and her master’s at the University of Delaware in economics education. Donna is the past president of the California Association of School Economics Teachers and a member of the Writing Committee for National Standards in Economics. Teaching awards include the Foundation for Teaching Economics’ 1994 Excellence in Economic Education and the 1994 California Economics Teacher of the Year presented by EconomicsAmerica of California.

Stephen Rabin is president of the Educational Film Center (EFC) and since 1983 has been responsible for management of production, development, and financing of its programs. Under his direction, EFC has created and produced a number of telecourses, teacher training and workshop series, and several hundred television specials, series, and videos, including several for Annenberg/CPB. These include The World of Chemistry, Economics USA, Exploring the World of Music, In Search of the Novel, and Inside the Global Economy.
Dimitri Saliani is the social studies chairman at Eleanor Roosevelt High School in New York City opening in September 2002. He has taught previously in the Minisink Valley and Mahopac school districts in New York for five years. He has incorporated economic principles into courses such as world history and United States history. He received his master's degree from New York University and bachelor's from the State University of New York at New Paltz with a major in history.

Dr. Mark C. Schug is the director of the UW-Milwaukee Center for Economic Education. The UWM Center is affiliated with the Wisconsin Council on Economic Education and the National Council on Economic Education. Dr. Schug has taught for over 30 years at the middle school, high school, and university levels. Professor Schug has written and edited over 170 publications.

Elaine L. Schwartz is an AP economics teacher at the Kent Place School. Located in Summit, New Jersey, Kent Place is an independent all-girls’ day school pre-K through grade 12. During her 31 years at Kent Place, Elaine has chaired the history department and taught U.S. history. Currently, she occupies an endowed chair in economics and is a member of the Cum Laude Society. Schwartz is a mentor teacher and a workshop leader for the Foundation for Teaching Economics and the author of several textbooks.

Teachers Featured in *The Economics Classroom*

Heather Anderson has a degree in social science education and began her career in education teaching eighth-grade American history. Currently, she teaches four economics honors classes and one AP microeconomics class at Eau Gallie High School in Melbourne, Florida. She has been teaching economics since 1999.

“I decided to teach high school. The only way I could move here was to teach world history and economics. And I thought, ‘I can do it. I’ll get through a couple of years and then I’ll get rid of the economics and I’ll be left with the world history.’ And once I started teaching economics that’s what I ended up loving. And so now I’m trying to get rid of the world history so that I can have all economics.”

Classes presented in *The Economics Classroom*: Price Floors (Workshop 3); Price Ceilings (Workshop 3); Compound Interest (Workshop 4)

Kendra Cheese teaches economics at Lakewood Senior High, located in western Jefferson County, a suburb of Denver, where she is the department chair for social studies. A Denver native, she has been teaching for 32 years. She received the Enterprising Teacher of the Year award from the Colorado Council of Economic Education in 2001. For the last four years, she has been teaching pre-international baccalaureate economics to ninth graders.

“Teaching ninth graders economics is a difficult challenge because they haven't had a lot of real-world experiences. They don’t drive, most of them have never worked, they’re still in that transition period from their parents giving them allowance to knowing more about how to work with money. But ninth graders are enthusiastic and they’re spontaneous and they like activities…they really enjoy them and don’t look at them as being beneath them.”

Class presented in *The Economics Classroom*: Property Rights (Workshop 3)

Dr. Eric M. Gernant received an M.A. and a Ph.D. in economics from Fordham University and has been teaching in the New York City school system since 1972. He transferred to New York City’s High School of Economics and Finance in 1995. One of New York’s specialized high schools, the High School of Economics and Finance offers a specialized curriculum focusing on finance and business-related courses.

“Historically, social studies teachers hate to teach economics. You have very few teachers on the faculty in any high school who have a master’s degree, let alone a bachelor’s degree in economics. It’s always a course that’s farmed out to somebody who has the least seniority. And here I had an opportunity, I thought, with a passion for the subject, to really go into depth and give these kids a top-notch education.”

Class presented in *The Economics Classroom*: Comparative Advantage and Specialization (Workshop 5)
Jay Grenawalt has been teaching for over 25 years. Currently, he works with juniors and seniors in the international baccalaureate program at George Washington High School in Denver, Colorado, teaching economics and history. He has been the recipient of many awards, including the White House Fellowship Distinguished Teacher of the Year Award, Commission on Presidential Scholars, 1994; the Boettcher Foundation Teacher Recognition Award, 1996; and the University of Chicago Outstanding Teacher Award, 1997 and 1998.

Grenawalt's students are generally very committed and academically oriented. He notes that even those students who are “sort of in the middle of the pack” get swept up by the interest and the enthusiasm that many of the students have.

“Too many American texts present economics from the American perspective only and we really do live in a global economy today. I try to find as many curricular materials that perhaps take us out of our own boundaries and look at it more in terms of how the Europeans might view it or the people in Asia or what have you....”

Classes presented in *The Economics Classroom*: Voluntary Trade (Workshop 1); Global Trade (Workshop 5); Gains From Trade (Workshop 5); What Makes Countries Rich? (Workshop 8)

Brett Hardin is a social studies teacher who began teaching economics in 1996. Hardin has a B.A. in history from Wesleyan University and an M.S. in secondary education from the University of Pennsylvania. He was a STAR teacher from 1998 through 2002, received the 2000-2001 BellSouth-Atlanta Braves Excellence in Education Award and was Georgia Teacher of the Year for 2002. He teaches at Campbell High School in Smyrna, Georgia.

“One of the things about teaching economics has been that I’m a better American history teacher than I was before, because there are lots of moments in American history where major economic events have obviously had major social or political impacts. And the social studies teachers—we like to focus on the social and political. We shy away from the economics ‘cause we don’t always understand it.”

Classes presented in *The Economics Classroom*: Macroeconomics (Workshop 6); Unemployment (Workshop 6); Effects of Inflation (Workshop 6)

Ted Hartsoe teaches economics at Choate Rosemary Hall, a small, private secondary school in Wallingford, Connecticut. The school has about 800 students and the economics program is an important feature in the curriculum. Mr. Hartsoe's economics classes are very popular elective choices. He teaches microeconomics, macroeconomics, international economics and an advanced topics course in economics. In 2001 he was named a NASDAQ Teacher of the Year and the student team he coached won the NCEE’s first nationwide Economics Challenge.

“It’s important for all the students, not just AP-level students, to know about basic economic indicators.... They have to be able to put those into context and understand what that tells them about the performance of the national economy. So they can understand what the politicians are saying to them and political candidates, and what that means in terms of policy—fiscal policy and monetary policy. I think every citizen needs to have an understanding of those indicators and what they mean and what those numbers are telling them.”

Classes presented in *The Economics Classroom*: Measuring Inflation (Workshop 6); Fiscal Policy (Workshop 7); How Money Works (Workshop 7); Business and Finance (Workshop 8)
About the Contributors, cont’d.

Marc A. Johnson is the social studies department coordinator and a teacher at Smoky Hill High School in Aurora, Colorado. He has taught middle school, high school, and community college for over 18 years. He received the Teacher of the Year Award from Horizon Community Middle School in 1995, the Enterprising Teacher of the Year Award from the Colorado Council on Economic Education in December 2000, and was one of four Colorado teachers selected by the NCEE to do a study tour of St. Petersburg, Russia, and establish an international classroom partnership in March 2002.

“A very good young social studies teacher said, ‘You know, you could throw me into any social studies class—anthropology, psychology, sociology, history, geography—and I could handle them all except for economics. I wouldn’t feel comfortable there.’ So the challenge is how do you get these guys, who have avoided economics in the past, how can you get them up to speed with economics? And I’m convinced the answer is through strong state councils offering courses that are non-threatening and friendly. I think we need to attack it in two ways: a content base, so they really have some economic understanding, then give them some lessons and activities and things that they can do. I don’t think one is good without the other.”

Classes presented in The Economics Classroom: Salaries and Wages (Workshop 4); Millionaires (Workshop 4); Education Pays Off (Workshop 4)

Richie Kibota teaches at Iolani High School in Honolulu, Hawaii. Affiliated with the Episcopal Church, the school is a culturally diverse, coeducational, college preparatory school. A member of the Hawaii Council on Economic Education, Richie has coached students at Moanalua High School and at Iolani to win the Hawaii State Economics Challenge contest. An economics teacher since 1983, Kibota has taught both advanced placement and microeconomics courses and currently teaches an elective 12th-grade economics class.

“This course is strictly an economics course. It’s not a financial management course and it’s not a consumer education course. It’s teaching microeconomic concepts. These students will become smarter consumers and make better decisions when it comes to finances down the road.”

Class presented in The Economics Classroom: Cartels and Competition (Workshop 2)

Dee Mecham teaches at Kamehameha School in Honolulu, Hawaii, a school that is unique because all the students are of Hawaiian ancestry. The school was founded by Princess Bernice Pauahi Bishop to support the Christian and Hawaiian values of the island’s children.

Mr. Mecham was a Ph.D. student in economics at the University of Hawaii who found his part-time work as a college teaching assistant so exciting that he now teaches full-time at Kamehameha School. He teaches a one-semester principles course (the regular level), a one-semester honors course, and the year-long advanced placement course. One semester of economics is required at any of the three levels. Mecham has received the 2002 Economics Teacher of the Year award for Hawaii from Hawaii Pacific University and the Hawaii Council on Economic Education.

“I definitely try to use a lot of local examples. In fact, when I started teaching classes at the University—I had come from Utah, so a lot of the examples that I had had to deal with parkas and skiing and snow. I’ve definitely switched and become more accustomed to using examples that have to do with surfboards and Spam musubis, some of the local foods here. It helps the kids to understand.”

Class presented in The Economics Classroom: Price Controls (Workshop 3)

Mark Melkonian supports his high school’s overall mission to provide a rigorous curriculum with a special focus on finance and business, and to help students prepare for the business world and for college. Mr. Melkonian teaches history, as well as entrepreneurship classes, at the High School of Economics and Finance in New York, New York.

“It’s not just starting and owning your own business, it’s empowering young people and giving them the ability to see an opportunity and act on it and to improve their lives. And I think if young people get that message, that’s the key. That’s what I’m hopefully trying to do.”

Class presented in The Economics Classroom: Entrepreneurs (Workshop 8)
About the Contributors, cont’d.

**Ghandi Moussa** teaches economics, including the school-required “Welcome to Wall Street” course, at the High School of Economics and Finance in New York. Originally a social studies teacher, Mr. Moussa enjoys incorporating his passion for history and government studies into his economics classes.

“It’s hard to make a case for the kids about the importance and the value of learning history and learning politics and government. It just doesn’t seem to catch on. But with economics and finance, they can see the relevance and the immediate effect on their own lives.”

Class presented in *The Economics Classroom: Patents and Copyrights* (Workshop 8)

**Carol Penland** has been teaching economics for over 25 years. She received the first Teacher of the Year in Economics award in Georgia in 1986 and was the founding president of the Georgia Association of Economic Educators in 1994. She has served on local, state, and national committees to write curriculum and is currently working with the Georgia Department of Education to revise the end-of-course test for economics. She teaches at South Cobb High School in Austell, Georgia.

“Economics has been called ‘the dismal science’ and there’s a reason for that. Most of us go to college and we just have someone stand up and talk to us about it. But I think students, especially in high school—and even in elementary and middle school—if they can have some hands-on experience it just makes a world of difference. I don’t want students to be afraid of economics. I want them to embrace it because it will make them better citizens, better consumers, better producers, and that’s going to make our economy better for all of us.”

Classes presented in *The Economics Classroom: Supply and Demand* (Workshop 2); *Market Simulation* (Workshop 2)

**Colonel Dick Rankin** was a career military officer. A graduate of the Virginia Military Institute, he taught economics and was the course director for sophomore economics at West Point. After he retired from the service, he began teaching at Iolani High School in Honolulu, Hawaii. He has coached a number of award-winning student economics teams, including an Economics Challenge National final-four team, and three Western Region Championship teams. Rankin has been the recipient of many awards, including U.S. Military Academy Department of Social Science Teacher of the Year, 1983; Hawaii State Economics Teacher of the Year, 2000; Western Region Economics Teacher of the Year, 2001; and the National Economics Teacher of the Year, 2001.

“I think economics is an extremely important subject. It’s a life-long skill that should be learned sooner rather than later. It is critical to get a handle on what makes our economy tick early on in your life and to understand the importance of decision-making. After all, economics really is about decision-making. Every decision you make doesn’t just have benefits, it has costs as well. And to weigh the costs and benefits, to think critically about those decisions, is going to make a person make the right decisions. I think it’s important to know economics on a personal level. I think to be an informed voter, economics is extremely important.”

Class presented in *The Economics Classroom: Shifts in Supply and Demand* (Workshop 2)

**Steve Reich** is an experienced teacher with over 17 years presenting economics and personal finance. While he had some minimal college course work in economics, he, like many teachers, had to learn on the job. He teaches at Valhalla High School in Valhalla, New York.

“When I first started teaching economics, I had only taken one class in economics and I was basically reading the textbook and trying to figure out what it was I was going to teach the next day. I was just out of college and I think they were looking for a large male who was also schooled in football. I was a social studies teacher. I had a history and an English degree. Economics was the job and they said, ‘Can you teach it?’ And I said, ‘Absolutely,’ and went right to it and did it.”

Classes presented in *The Economics Classroom: Incentives* (Workshop 1); *Incentives and Public Policy* (Workshop 3)
Eliot Scher has been teaching economics for over 20 years, and like many of the other exceptional teachers we see in this series, his economics career began almost by accident. He teaches at White Plains High School in White Plains, New York.

“It was 1980 and we wanted to implement an economics program. Our department chairperson came to us and said, ‘Who wants to teach economics?’ and nobody knew anything about economics. They offered us some money for writing the curriculum and here I was, I was a young father [who] needed a couple of bucks and so I said to him, ‘Hey, I’ll write the curriculum.’ And we sat down (it was one other person and myself) to write the curriculum and we had no idea where to begin. We looked at the State of Oregon’s economics curriculum. So we said, ‘We found this great curriculum out in Oregon and we think it looks pretty good,’ and we implemented the Oregon economics program and it stuck.”

Classes presented in The Economics Classroom: Stock Market (Workshop 4); Inflation (Workshop 6); Open Market Operations (Workshop 7); Fed Challenge Team (Workshop 7)

Elaine Schwartz teaches at Kent Place School, a private girls’ school in Summit, New Jersey that was founded over 100 years ago. Currently, her economics class, which is an elective, is composed of 18 seniors. She is also the author of two economics textbooks.

“I perceive economics to provide a fundamental outlook for all of us in our personal lives, at work and as voters. And with that in mind—with the idea that decisions always involve tradeoffs, that people respond to incentives, that people go and they trade—they buy when they think they’re going to get individual gain. All of these basic ideas are at the heart of what thinking economically is about. I perceive economics as a critical, critical area for students to learn about when they’re at the high school level.”

Classes presented in The Economics Classroom: Opportunity Cost (Workshop 1); Trade-Offs (Workshop 1); Protectionism (Workshop 5)

Greg Smith is a social studies teacher with a master’s degree in American history. At Hastings-on-Hudson High School in Hastings-on-Hudson, New York, he teaches economics, a curriculum requirement, to mainstream students, as well as at-risk students, such as the class shown in this workshop.

“When we start the class, I’m getting some of the basic economic principles down, so they have that as a core foundation—a key vocabulary for them. The responses in the beginning are mixed. Some of them take an interest [in] it. Others think it’s boring. But I noticed as the class progresses they seem to take more stock in what they do and they become more interested in what we’re doing in class. As the year progresses they start to see the relevance. It’s not something that I can teach in one 40-minute class or one 80-minute class to show them the relevance. It’s something that I have to build upon, with the hope that by the end of the semester they come to see that.”

Class presented in The Economics Classroom: Monetary Policy (Workshop 7)

Anna Vanlandingham has taught in Mississippi and now teaches at Lake Mary High School in Lake Mary, Florida. Like many other experienced teachers, she was recruited to teach economics. Her school needed an assistant basketball coach and economics teacher and she accepted. More than 20 years later, she is one of Florida’s most experienced high school economics teachers. Her awards include the 2001 Regional NASDAQ Economics Educator of the Year; Florida Council on Economic Education Economics Educator of the Year, 2002; and the 2001 Florida Junior Achievement Economics Educator of the Year.

“When a new teacher is starting out with hands-on activities it can be difficult. One of the first things that you have to accept with hands-on is you don’t have complete control of your classroom. Most beginning teachers are not equipped for that. When you’re a new teacher you’re not real confident, so it makes you want to be more in control of everything. Another thing is you have to have confidence in yourself and listen to the students if you really want to make it interesting and make it good. Because I found that when I first started doing some of these things that my students had a lot of good suggestions, which improved my program. That confidence takes a couple of years of teaching to develop.”

Class presented in The Economics Classroom: Gross Domestic Product (Workshop 6)
Helpful Hints

Conducting Successful Workshop Sessions

Utilize All the Workshop Components
*The Economics Classroom* consists of eight hour-long videos, *The Economics Classroom* Web site, and the materials in this guide. Each workshop is two hours long and consists of a one-hour video and a one-hour site discussion.

Designate a Facilitator
Each week one participant should be responsible for facilitating the workshop session. Another option is to appoint a facilitator and another participant to demonstrate a lesson. The facilitator does not need to be the same person each week. In fact, we recommend that participants rotate the role of facilitator on a weekly basis. The facilitator should bring the necessary materials to that workshop or make sure the materials are there.

Keep an Eye on the Time but Be Flexible
Each workshop consists of a one-hour video and a one-hour site discussion. The recommended format is to stop the video at designated times and conduct a discussion or lesson pertaining to the content just viewed. There is also time for Getting Ready and Closure. These times differ for each workshop. The times are approximate. Feel free to alter the discussions depending on your needs.

Note: If you are watching the video programs directly from the Annenberg/CPB Channel broadcast or via the Annenberg/CPB Channel Web stream, you will be unable to stop the program for discussions and activities. Therefore, you will need to alter the workshop session to discuss and hold group activities before and/or after watching the program.

Read the Lessons Before the Workshop
Each workshop involves discussing or demonstrating two sample lessons. To facilitate the use of the lessons, read them before the workshop. If the lesson is to be demonstrated, do not read the answers. It would also be helpful to designate a lesson facilitator the week before each workshop.

Try the Lessons in Your Classroom
Conduct the lessons in your classroom if you are currently covering that content. Share your experiences with your colleagues; be sure to discuss any changes you made in the lesson to meet the needs of your students.

Utilize the Web Site
You can find *The Economics Classroom* Web site at

[www.learner.org/channel/workshops/economics](http://www.learner.org/channel/workshops/economics).

The Web site offers lesson plans and links to other sources of information that are not found in this guide. On the Web site, you will find:

- About the Workshops
- Workshop Descriptions
- About the Teachers
- Support Materials (this guide in PDF file format)
- Channel-Talk (the email discussion list for this workshop)
- Resources
- Credits

There are also links to workshop registration, information on receiving graduate credit, the broadcast schedule of the video programs on the Annenberg/CPB Channel, and information on purchasing the video programs.
Helpful Hints, cont’d.

Make Choices
You may find that viewing the video, conducting the discussions, and demonstrating the lessons take more than two hours. We recommend that the facilitator make choices among the activities and decide which discussion items are most important for the participants. All activities and lessons spring from the videos, so all choices will be appropriate to the content.
Workshop 1
How Economists Think

Description
This first workshop session shows why economics is a core subject and deserves this spot in the “standing room only” curriculum. Students should understand that economics is much more than a bundle of concepts. It is a unique way of thinking that offers insight into seemingly chaotic human behavior in a world of different values, resources, and cultures. Economics is not merely the study of money. Almost every aspect of human behavior can be analyzed using an economic approach. In a good economics course, students learn the economic way of thinking, not a definite set of conclusions; they are given a new set of lenses through which to view the world.

In this workshop, teachers demonstrate some of the key ideas that constitute an economic way of thinking. Elaine Schwartz, who teaches at Kent Place School in Summit, New Jersey, begins by showing her students why there is no such thing as a free lunch. She uses personal and societal examples to illustrate opportunity cost and trade-offs. Steve Reich, from Valhalla High School in New York, uses an economic mystery to illustrate how incentives drive behavior. Finally, Jay Grenawalt engages his class at George Washington High School in Denver, Colorado, in a simple but effective trading simulation that illustrates how people and nations gain when they trade voluntarily.
Key Concepts

- Everything has a cost. This is why there is no such thing as a free lunch.
- Economists are mainly concerned with opportunity cost or the forgone benefit of the next-best alternative when resources are used for one purpose rather than another.
- People choose for good reasons. When people choose, they weigh the costs and benefits.
- Choices involve trade-offs. Economic decisions are more or less—not yes or no—choices.
- Incentives drive choices. Economics is really about incentives. Economic theory is based on the idea that changes in incentives influence behavior in predictable ways.
- People gain from voluntary trade. Trade creates wealth. When two people trade voluntarily, they give up something they value less for something else they value more.
- Economic actions create secondary effects, and, unfortunately, these secondary effects are not always good. One action can create many unintended consequences.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

- Productive resources are limited. Therefore, people can not have all the goods and services they want; as a result, they must choose some things and give up others. (Content Standard 1)
- Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something: few choices are “all or nothing” decisions. (Content Standard 2)
- People respond predictably to positive and negative incentives. (Content Standard 4)
- Voluntary exchange occurs only when all participating parties expect to gain. This is true for trade among individuals or organizations within a nation, and usually among individuals or organizations in different nations. (Content Standard 5)
Workshop Session

Getting Ready (15 minutes)

1. Because this is the first workshop session, teachers should introduce themselves to the group and share their reasons for participating in the workshop.

2. Each teacher should give a brief definition of what economics is all about. Have one participant write each idea on a chart, transparency, or the chalkboard. Accept all answers. Don't discuss the definitions now, but wait until the final section, Closure.

Watching and Discussing the Video (90 minutes)

1. View Section One (opportunity costs) and Section Two (trade-offs). (25 minutes)

2. Discuss Section One and Section Two. (10 minutes)

   - John Maynard Keynes said, “The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions.” (Quoted in Paul Heyne, The Economic Way of Thinking, Macmillan College Publishing Co., New York, 1994, p. 4.) In what ways did the discussion in Elaine Schwartz’s class reinforce or disprove what Keynes said?

   - How did Elaine take economics from personal to business to government decision-making?

   - How did Elaine illustrate opportunity cost? What are some other ways to illustrate opportunity cost?

   - Elaine was teaching a small class. Would her techniques work in a large class? How would you modify her techniques for a large class?

3. Form small groups and try to solve the mystery of the Tragedy of the Commons (Lesson 1.1). Each group should determine which of the clues, which are at the bottom of the mystery, are most relevant and why. Also discuss which items in the Handy Dandy Guide are most useful in solving the mystery. Do not look at the answer key. (10 minutes)

4. View Section Three (incentives). (15 minutes)

5. Discuss Lesson 1.1, “The Tragedy of the Commons,” which was taught by Steve Reich in Section Three. (6 minutes)

   - How effective did you think the lesson was?

   - How did Steve modify the lesson?

   - What modifications might you make in this lesson?

   - How were your answers different from the students’ and how would your expectations differ from Steve’s?

6. View Section Four (voluntary trade). (17 minutes)
7. Discuss Lesson 1.2, “Why Do People Trade?” which was taught by Jay Grenawalt. (8 minutes)
   • Read the lesson.
   • Note the questions at the end of the lesson. Why is debriefing so important after a simulation?
   • How did Jay modify this lesson?
   • In what ways is this simulation realistic? In what ways is it unrealistic?
   • Why go to the trouble of organizing this activity when you could give your students the information in a lecture?

**Closure (15 minutes)**

Review the definitions of economics on the list developed at the beginning of the workshop. How would you change your perception of what economics is all about now that you have seen the video program? What shifts have you made in your thinking?
Lesson 1.1: The Tragedy of the Commons


Directions
Read the Handy Dandy Guide and The Mystery. Read The Clues assigned to your group. Be careful; while all the clues are correct, only some are useful in solving the mystery. Decide which clues are most relevant to solving the mystery. Use the clues and one or more of the ideas from the Handy Dandy Guide to figure out a solution to the mystery. Write your solution.

Handy Dandy Guide
1. People choose.
2. People’s choices involve costs.
3. People respond to incentives in predictable ways.
4. People create economic systems that influence individual choices and incentives.
5. People gain when they trade voluntarily.
6. People’s choices have consequences that lie in the future.

The Mystery
Wildlife is in danger in many parts of the world.
- Fishing fleets catch so many wild salmon that the species is threatened.
- In some parts of Africa, elephants and other animals are hunted by poachers, despite government bans on hunting.
- The world’s population of whales is in danger.

Why are so many wild animals endangered?

The Clues
1. Each problem involves an environmental issue.
2. Each problem has frustrated efforts by governments to come up with practical and effective solutions.
3. Each problem involves a lack of incentives for conservation.
4. Each problem involves something not owned by individuals—fish and wildlife.
5. Each problem is very old—the subject of long struggles.
6. Each problem is often used as an example of how people are so bad, so that their behavior must be curbed through regulation.

Record your solution and explain it briefly here: __________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
Wildlife is in danger in many parts of the world.

- Fishing fleets catch so many wild salmon that the species is threatened.
- In some parts of Africa, elephants and other animals are hunted by poachers, despite government bans on hunting.
- The world's population of whales is in danger.

Why are so many wild animals endangered?

Clues 3 and 4 are the most important for solving the mystery.

Note to the Teacher: Before you discuss solutions to this mystery, consider spending a few minutes explaining the mystery’s title, “The Tragedy of the Commons.” It is an expression hearkening back more than 150 years, when William Frank Lloyd, a political economist at Oxford University, commented on the devastation of common grazing pastures in England. “Why,” he asked, “are the cattle on a common so puny and stunted? Why is the common itself so bare-wore, and cropped so differently from the adjoining enclosures?” The reason was that farmers using common pastures tended to overuse them—grazing too many cattle on them—because it cost the farmers little to do so. The lack of individual ownership of grazing pastures created the incentive for overuse. In 1968, Garrett Hardin reflected on the problem Lloyd had identified. Hardin described it as the tragedy of the commons. Since then, the term has come into general use among economists. In this lesson, we invite you to consider its applicability to problems involving species preservation.

Solution

From an economic perspective, the problem is one of insufficient or perverse incentives. The incentives in play do not encourage people to protect the environment (Clue 3). Indeed, in each case, some incentives encourage people to overuse or abuse the threatened resource: salmon, elephants, and whales.

The incentives would change for the better if a way could be found to establish private ownership rights—or something close to private ownership rights (Clue 4)—for threatened resources. When nobody owns a population of fish, for example, it is in the interest of a fisherman to catch as many fish as possible. Not to do so is to leave the fish for others to catch. In other words, fish owned by nobody—like wild salmon off the American Northwest coast—have no protectors. If ownership rights could be established, the owners of the fish could use the legal system—courts and law enforcement officers—to protect their valuable property.

But who would protect the fish from their owners? Couldn't people who owned fish simply harvest every one of them? Couldn't they take the money and run? If they did, they would destroy their own property, depriving themselves of any future use of it. The prospect of future use—to continue fishing or to resell the ownership rights to the fish—would create an incentive to protect the fish. In this respect, fishermen would resemble farmers. Farmers are not known for their tendency to wipe out their cows and chickens or to destroy their wheat fields.

Some experiments with ownership rights for fishermen have been initiated in New Zealand and in the Great Lakes area of the United States. In these experiments, a system of quotas and licenses is established, offering fishermen something like a property right in local fisheries. The participating fishermen pay for a license that allows them to catch a quota of fish legally. If there are too many fishermen working a given fishery, the fees from the license sales are used to buy out some of the fishermen until the number is reduced sufficiently to allow the fishery to recover.
In other parts of the world, similar systems provide local people with ownership rights to wildlife. African villagers holding ownership rights to an elephant population, for example, may harvest animals legally and may sell hunting permits to others. In such a system, the incentives encourage protection of the elephants. Since the villagers’ future benefits depend on the elephants, they begin to act as prudent owners—refusing to cooperate with poachers and cooperating with legal authorities to protect their valuable property.

Could ownership rights be used to protect whale pods from illegal hunting? Given the expanse and the depths of the world’s oceans, it is obviously an idea marked by challenging problems. But cattle once ranged widely over vast expanses of land in the American West, and ownership rights for the cattle were established by a legal system that involved cattle branding. It is possible, similarly, to imagine an ownership system involving electronic ownership tags placed on whale pods, along with an international system for trading ownership rights. In this way, once again, the incentives would favor the whales, since whale owners would have an interest in protecting their asset. Environmental groups also could purchase whale pods in such a system in order to protect their whales against all harvesting; this tactic is already in use by nature conservancy groups that purchase land to protect it from development.
Lesson 1.2: Why Do People Trade?


Introduction
Most international trade is the voluntary exchange of goods and services between individuals and businesses located in different countries. Nations do not trade. Instead, individuals representing nations, individuals representing businesses, and individuals representing themselves make trading decisions. Voluntary trades are made when both parties expect to gain from the trade. Such trades may continue in the future if both parties are pleased with the exchange. If the consequences of trading are not satisfactory, then the parties will not continue their voluntary trade.

People evaluate their satisfaction from trades by weighing the costs and the benefits they receive from the trades. How much do they value what they give up? How much do they value what they receive? When the expected benefits outweigh the expected costs, people trade. When the expected costs outweigh the expected benefits, people don’t trade.

Concepts
- Trade
- Voluntary exchange
- Costs
- Benefits

Content Standards
- Voluntary exchange occurs only when all participating parties expect to gain. This is true for trade among individuals or organizations within a nation, and among individuals or organizations in different nations.
- Exchange is trading goods and services with people for other goods and services or for money.
- The oldest form of exchange is barter: the direct trading of goods and services between people.
- When people buy something, they value it more than it costs them; when people sell something, they value it less than the payment they receive.

Objectives
- Identify the expected costs of a voluntary trade.
- Identify the expected benefits of a voluntary trade.
- Distinguish between voluntary and involuntary trade.
- Explain how value is created, and overall satisfaction increases, when people trade.

Lesson Description
Students participate in a trading activity. In a debriefing session, they discuss their actions and compare their behavior with trading behavior that occurs in the economy.

Time Required
One class period.
Materials

- One transparency each of Visuals 1, 2, and 3
- Pencils and paper for students
- One small paper bag per student, containing one or more tradable item(s) such as dried fruit, small boxes of raisins, pencils, stickers, library passes, shampoo, soap, etc. Make the bags very different from one another. For example, prepare some bags containing unpopular items, only a single item, many of the same items, many different items, items more popular with boys, and items more popular with girls.

Procedures

1. Explain to the students that they will investigate trading behavior today by participating in a trading activity and by using that experience to learn more about international trade.

2. Display Visual 1, “Why Do People Trade?” Ask students to answer this question and put their responses on the chalkboard. Treat these responses as a hypothesis that will be tested against the evidence developed in the rest of the activity.

3. Put students in groups of three, and tell them to take out a pencil and sheet of paper.

4. Distribute the bags containing tradable items to the students, one bag per student. Tell them not to look in the bags until you give them permission.

5. Tell the students to look into their bags without showing the contents to other students, and to rate their bag contents on a scale of 1-5. (One is the lowest rating; five is the highest.) Ask the students to write down their rating on their sheet of paper.

6. Let the students take items out of the bag and show them to other people in the group, if they choose to do so.

7. Allow the students two minutes to trade items within their group of three, if they can agree on a trade. No one is required to make a trade.

8. After the two-minute trading session, ask the students who have made a trade to raise their hands. Write down the total number of trades on the chalkboard. Then ask the students to give examples of trades they made, and trades they did not agree to make, so that other students get some idea of what tradable items are available in the entire class.

9. Ask the students to rate the item(s) they now have on a scale of 1-5. See how many students report a higher score after trading, how many report the same score, and how many (if any) a lower score. (People who traded are likely to give the new item(s) a higher rating. Some people who did not trade may also change their rating, now that they see what other items are available. It is important to note that the person who traded an item may give it a 3, while the one who received it may give it a 2. This does not mean that the trade was not beneficial. What is important is that people who receive an item give it a higher score than the score of the item they traded away.)

10. Tell the students that one more trading session will take place. This time they may trade with anyone in the class. They have five minutes to make any and all trades they wish to make. Again, no one is required to trade.

11. At the end of the five-minute trading session, call the students back to order. Ask them to display the items they now possess on their desks. Ask them to rate the item(s) on a scale of 1-5.

12. Conduct a debriefing discussion with the students, using the following questions:

   a. How many of you made trades in Round 1? In Round 2? (Have a show of hands; more people probably traded in Round 2 than in Round 1.)

   b. Why did more trades take place in Round 2 than in Round 1? (More time to trade, better trading information existed as a result of Round 1, more alternative items were available to trade. Stress the idea that trade in Round 1 was similar to trading within a country, while trading in Round 2 was more like international trade. Note that the source of gains from trade are exactly the same in both rounds—i.e., in both intranational and international trade. In both rounds, people traded things when they valued what they received more than what they gave up.)
Lesson 1.2, cont’d.

c. What items were traded? (Get some sample answers.)
d. Which items were most popular, least popular? (Get some sample answers.)
e. Why did you trade? (People tend to trade items they personally value less for items they value more.)
f. What was the cost of your trade? (The item given to the other person in the trade.)
g. What was the benefit received from your trade? (The item received from the other person in the exchange.)
h. How many people rate the item they traded for higher than the item they had originally? (Almost everyone who traded will rate the new item higher. This evidence should confirm the answers to Question E.)
i. Did anyone make a mistake and trade badly? Did anyone fail to make a trade they now wish they had made? (Often, someone will make a mistake. Not all trades turn out as expected, and not every trading opportunity is seized.)
j. If students say they made a mistake, ask if they would make the same mistake next time. (Maybe not. People tend to learn from their mistakes, and bad trades often lead people to stop making that trade or to stop trading with certain people or companies.)
k. Which people had the most difficulty trading with others? (People with unpopular items. To trade, you must have or produce items other people want.)
l. Why did some people choose not to trade? (People who preferred the items they had over the items offered to them had no incentive to trade.)

13. Display Visual 2. Explain to the students that they must now draw some conclusions about trade in general. See if they agree with the definition of trade presented in Visual 2. Stress the voluntary nature of trade.

14. Display Visual 3. Ask the students if they agree with these statements about the motives for trade. Ask them for examples of their motives during the trading activity which are consistent with these statements.

15. Compare these explanations for why people trade with the students’ initial statements in response to Visual 1. Revise the initial statements so they are consistent with the evidence from the activity and the statements in Visual 3.

16. Ask the students if they can identify examples of involuntary trade. (A mugging where a thief says, “Your money or your life.” When you are ordered to cut the grass for a price set by your parents, or to pay income taxes or go to jail.) Ask students to discuss the question: Do these “trades” always increase satisfaction and wealth, or do they ever?

17. Summarize the main points of this lesson:
   a. Trade is the voluntary exchange of goods and services.
   b. People trade because they expect to gain from the trade.

Assessment
Provide the following information to students and ask them to respond to the question.

In 1994, Canadian businesses and individuals sold $195.8 billion of goods and services in the United States, while businesses and individuals in the United States sold $229.7 billion of goods and services in Canada. Why were these businesses and individuals trading with one another when they live in different countries? (Suggested answer: They are trading because they gain from these exchanges. Otherwise they would not make these trades. Their national citizenship has little to do with their decision to trade.)
Why Do People Trade?
Trade Is the Voluntary Exchange of Goods and Services Among Individuals and Businesses.
Motive for Trading
People expect to gain by trading with other people. They hope to receive a good or service that is more valuable than whatever they trade away.

Motive for Not Trading
People do not trade when the good or service being offered is of less value than the good or service they are asked to exchange.
Workshop 2
How Markets Work

Description

This workshop session focuses on the laws of supply and demand and their effects on the allocation of resources. The laws of supply and demand are critical to an understanding of economics. “Teach a parrot to say ‘demand’ and ‘supply’ and you have an economist,” according to some wags.

However, it is more complex than that. Supply and demand curves are models for understanding human behavior. If students merely memorize the relationships on the graphs, they will not be able to apply supply-and-demand analysis to a wide variety of issues. Carol Penland’s class at South Cobb High School in Austell, Georgia models market behavior by participating in a simulated market of classroom-baked cookies. Through this simulation, students should see why prices move toward equilibrium and the effects of supply and demand. By participating in a simulation, students should understand how well markets work, even though no one is “organizing” the economy. The invisible hand works better than the visible boot.

A primary reason why markets work well is because entrepreneurs pursue profits. Dick Rankin uses a bull and a red flag analogy to demonstrate the effects on markets of businesses pursuing profits to his honors class at Iolani School in Honolulu, Hawaii. He uses the same analogy to illustrate that monopolies block entry and limit the good effects of competitive markets.

Richie Kibota takes this idea further in his class at Iolani School by using a simulation on cartels. The simulation illustrates why monopolies result in higher prices and lower output and why cartels eventually break up.

Key Concepts

- Demand is the relationship between the quantities of a good that consumers are willing and able to purchase and the various prices in a given period of time. The law of demand states that consumers buy more at lower prices and less at higher prices.

- Supply is the relationship between price and the amount that producers are willing and able to sell at various prices in a given period of time. Producers are willing to sell more at higher prices and less at lower prices.
• In competitive markets, supply and demand constitute the sum of many individual decisions to sell and to buy. The interaction of supply and demand determines the price and quantity that will clear the market. This is where quantities supplied and quantities demanded are equal. It is called the equilibrium or market-clearing price.

• Equilibrium price and quantity are determined as follows. At a price higher than equilibrium, there is a surplus and pressure on sellers to lower their prices. At a price lower than equilibrium, there is a shortage and an incentive for buyers to offer higher prices. Only a market simulation can show the dynamics of this process.

• There is a difference between a change in demand and a change in quantity demanded. A change in quantity demanded can only be caused by a change in the price of the good. It is a movement along the demand curve. At a lower price, a greater quantity is demanded. A change in demand means that more or less is demanded at every price. It is caused by changes in preferences, incomes, population, and the prices of complementary or substitute goods.

• There is a difference between a change in supply and a change in quantity supplied. A change in quantity supplied is a movement along the supply curve and can be caused only by a change in the price of the good or service. At a lower price, a lesser quantity is supplied. A change in supply is a shift of the curve whereby more or less is supplied at every price. A change in technology or in production costs will cause a change in supply.

• In a market economy, prices provide information, allocate resources, and act as rationing devices. It is important to know how to illustrate a wide range of situations with supply-and-demand graphs.

• In the long run, a monopoly firm charges a higher price and produces at a lower output than a competitive firm.

• A cartel exists when several firms conspire to act as one firm. Fortunately, cartel members (such as the nations in OPEC) cheat on each other, and most cartels eventually break up.

**Voluntary National Content Standards in Economics**

The activities shown in this workshop illustrate the following standards:

• Different methods can be used to allocate goods and services. People acting individually or collectively through government must choose which methods to use to allocate different kinds of goods and services. (Content Standard 3)

• Markets exist when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services. (Content Standard 7)

• Prices send signals and provide incentives to buyers and sellers. When supply or demand changes, market prices adjust, affecting incentives. (Content Standard 8)

• Competition among sellers lowers costs and prices and encourages producers to produce more of what consumers are willing and able to buy. Competition among buyers increases prices and allocates goods and services to those people who are willing and able to pay the most for them. (Content Standard 9)

• Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failures. (Content Standard 14)
Getting Ready (15 minutes)

1. Begin by having participants take out their pens. Brainstorm as to how many people it takes to produce a pen. As a group, make a list of these people and their contributions to the production and distribution of the pen. Don't limit yourselves to the pen manufacturer itself. Someone had to make the plastic or metal. The process used natural resources. The ink and paint had to be made. Since no one gave orders on how the pen was to be made, how did this happen? There will be clues in this video workshop.

2. Think about your community. How many economic transactions do you make in a typical day? How many goods and services are available? How did they get there? Who do you thank for all this?

Watching and Discussing the Video (90 minutes)

1. View Section One (supply and demand) and Section Two (market simulation). (28 minutes)

2. Form small groups to read and discuss Lesson 2.1, “A Classroom Market for Crude Oil.” (10 minutes) Discuss the following questions:

   • Why does this simulation work best when a homogeneous good is used?
   • What are the advantages and disadvantages of using something like cookies compared to crude oil?
   • How did Carol Penland relate the simulation to supply and demand curves? How does “A Classroom Market for Crude Oil” do this?
   • Carol’s class had a lot of fun, but did the students really understand supply and demand? What were the clues that they were or were not understanding these concepts?

3. In the same small groups, participants should write a “Teacher Tip Sheet on the Dos and Don'ts of Classroom Simulations.” Each group should appoint a spokesperson to share the group's ideas with the other participants. (10 minutes)

4. View Section Three (incentives) and Section Four (cartels and competition). (30 minutes)

5. Discuss Dick Rankin’s and Richie Kibota’s classes. (12 minutes)

   • How did Dick illustrate how profits act as an incentive for producers to produce and how monopolies restrict production?
   • What are some other ways to demonstrate profits, monopoly behavior, and market pricing?
   • Richie could have simply told his students that cartels raise prices and restrict production. What indication is there that the students understood cartels better because of the simulation?
   • Discuss the advantages and disadvantages of having student groups compete during an activity, as you saw them do in Richie's class.

Closure (15 minutes)

Form groups and answer the questions on Lesson 2.2, “Shifts in Supply and Demand.” Then compare your answers to the sample solutions.
Lesson 2.1: A Classroom Market for Crude Oil


Introduction
Every day in communities all around the nation, decisions are made on what goods and services will be produced, how many will be produced and purchased, and at what prices. How are these decisions made? In a market economy, there is no central planning committee to answer these basic economic questions. Instead, prices are established through the interaction of buyers and sellers in the marketplace. Those prices allocate goods and services to the uses that individual buyers value most, in terms of what they are willing and able to pay for different products. At the same time, any producer can decide to supply these goods and services. Producers will be successful and earn profits as long as they can make a product that consumers are willing to buy at an average cost that is not higher than the market price.

Despite the importance of markets in the U.S. economy and other market systems, most people who live in these countries know relatively little about how they operate. Understanding more about how markets work can help students make better choices today as consumers and perhaps as workers and savers. In the future, it can help them make better decisions as investors and perhaps even as producers and entrepreneurs. Participating in the simulation described in this lesson should also help students see that market allocations of goods and services are extremely decentralized; even though decisions are made by individual buyers and sellers, in fact, the overall process is automatic and impersonal.

Concepts
- Supply
- Demand
- Market clearing price
- Surplus
- Shortage

Content Standard
- Markets exist when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services.

Benchmarks
- Market prices are determined through the buying and selling decisions made by buyers and sellers.
- The market clearing or equilibrium price for a good or service is the one price at which quantity supplied equals quantity demanded.
- If a price is above the market clearing price, it will fall, causing sellers to produce less and buyers to purchase more; if it is below the market clearing price, it will rise, causing sellers to produce more and buyers to buy less.

Objectives
- Students explain how the interaction of buyers and sellers in the marketplace determines a market clearing price.
- Students define market clearing price as the one price at which quantity supplied equals quantity demanded.
- Students explain how changes in the price of a good or service affect the quantities that are demanded and supplied.
Lesson 2.1, cont’d.

Lesson Description
Students participate in a simulation to experience how a competitive market works. Although most markets for goods and services are not as competitive as the market in this activity, by playing “A Market in Oil” students gain a better understanding of how the interaction of buyers and sellers determines prices in any market.

Time Required
One class period.

Materials
- Thirty-two Buy Cards (four copies of Activity 1) and 32 Sell Cards (four copies of Activity 2). Use different colors for the buy and sell cards. Write in the following amounts:

<table>
<thead>
<tr>
<th>$ per barrel</th>
<th>$24</th>
<th>$26</th>
<th>$28</th>
<th>$30</th>
<th>$32</th>
<th>$34</th>
<th>$36</th>
<th>$38</th>
<th>$40</th>
<th>$42</th>
<th>$44</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Buy Cards</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td># of Sell Cards</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

- Activity 3: Score Sheet for “A Market in Crude Oil,” one per student
- Activity 4: Supply and Demand Schedules, one per student
- Activity 5: Crude Oil Supply and Demand (graph sheet), one per student
- Activity 6: A Market Survey, one per student
- One colored armband (construction paper, crepe paper, or yarn) for each seller
- NOTE: This activity requires a class of at least 20 students to be effective. Up to 50 students can participate if your room is large enough.
- Visual 1: Sample Buy/Sell Cards
- Visual 2: Class Tally Sheet
- Visual 3: Graphing Supply, Demand, and Market Clearing Price

Procedures
1. Tell students they are going to participate in a simulation in which half the students will be buyers of barrels of crude oil and half will be sellers. In the real market, exchanges are made for millions of barrels, but to keep calculations simple, students will deal with one barrel at a time.

2. Display Visual 1. Explain that each buyer will receive a Buy Card. Read the buy card, pointing out that cards have various prices. Explain that students must try to buy a barrel of crude oil at the lowest possible price. They should not buy for more than the price on their card, although this is sometimes necessary to make a transaction and get another buy card. Stress that buyers should not reveal the price of their cards at any time.

3. Repeat procedure 2 with a Sell Card. Tell sellers that each seller will receive one sell card at a time. Explain that students must try to sell their barrels of crude oil at the highest possible price. They should try not to sell for less than the price on their cards, although sometimes this is necessary in order to make a transaction and get another sell card. Stress that sellers should not reveal the price on their cards at any time.

4. Explain the following rules for the simulation:
   a. Any buyer can talk with any seller.
   b. The goal of both buyers and sellers is to make as much money as they can. The buyers do this by buying a barrel of oil for a lower price than the one shown on their cards. The sellers make money by selling for a higher price than the price shown on their cards.
Lesson 2.1, cont’d.

c. All students are free to make as many transactions in a round as time permits.

d. All transaction prices must be made in whole dollar increments.

e. When a transaction is made, both the seller and the buyer report the agreed upon price to the recorder who will enter it on Visual 2. Display Visual 2. Remind students to watch the tally sheet so that they will know what prices are being paid for a barrel of oil.

f. After a transaction, students should turn in their cards and receive new ones, re-enter the marketplace, and resume making transactions. It is important that students receive a new card after every transaction. [NOTE: You may wish to assign two students to handle the distribution and collection of the buy and sell cards during the game, and another student to record each transaction on the Class Tally Sheet (Visual 2). Buy and sell cards should be kept in separate piles and shuffled between each of the three rounds.]

5. Hand out individual score sheets, Activity 3. Review procedures for completing the score sheet.

6. Clear a large area in the classroom and designate it as the marketplace.

7. Divide the class into two equal-sized groups. One group will be sellers, the other buyers. Distribute a colored armband to each seller. Explain that the buyers will be buyers throughout the game and sellers will be sellers throughout the game.

8. Explain that you will conduct three rounds of trading lasting five minutes each. Announce when one minute remains in each round.

9. Use Visual 2 to record transactions.

10. Encourage students to make as many deals as they can in the time permitted. Remind students that it is permissible to take a loss in order to get a new transaction card.

11. During the time between trading rounds, direct students’ attention to the record of all transactions on the Class Tally Sheet, Visual 2. Point out that it contains useful information for them. Do not elaborate.

12. At the end of the three rounds, allow students time to calculate their total net gain or net loss. Remind students that in the real market exchanges would be made for millions of barrels, so their gains or losses would be in millions of dollars too.

13. Determine the buyer and seller who had the largest net gains.

14. Conduct post game discussion. Possible answers are shown below.

   a. At what price was crude oil most frequently sold in each round? (Have students examine data on their score sheets and on the Class Tally Sheet.)

   b. In which round did the greatest spread in prices occur? (Examine data.)

   c. Why did the prices become more clustered in later rounds? (Competition among buyers and sellers based on greater information is the most important cause. Markets tend to move toward an equilibrium price as buyers and sellers obtain information about the quantity of products available at different prices.)

15. Distribute Activities 4 and 5. Inform students that the information on the buyer and seller cards can be converted to supply and demand schedules and used to construct a graph that illustrates the behavior of buyers and sellers. The focal point of the graph—the point at which the line for market supply and the line for market demand intersect—is called the market clearing price or the equilibrium price of the product traded (in this case, crude oil).

16. Tell students to construct the graph by placing dots at the points that correspond to all combinations of prices and quantities shown in the supply schedule on Activity 4. Then do the same, but use small crosses instead of dots, for the demand schedule. Connect the dots to produce the supply schedule; connect the crosses to produce the demand schedule. Tell students to label each curve. Assist students who have difficulty. When they have finished, project Visual 3 and have students compare their graphs to it.
17. Tell the class the graph indicates that, given enough time, this competitive market would generate a market price of $34 per barrel of crude oil. At that price, 16 barrels of crude oil would be sold. Ask: How does this compare with the market clearing price in the class simulation? (May vary. Typically, a price of about $34 will not prevail until students play several rounds of the game. But in later rounds, their transactions should converge toward the market price.)

18. After students complete the graphing exercise, summarize the important points by asking:
   a. What does the demand schedule show? (The quantities of crude oil buyers are willing and able to purchase at all possible prices.) Explain that this entire schedule is what economists call demand.
   b. What does the supply schedule show? (The quantities of crude oil sellers are willing to produce and sell at all possible prices.) Explain that this entire schedule is what economists call supply.
   c. When the only thing that changes is the price of a product, what relationship exists between the price of a good or service and the quantity people are willing to buy? (As price rises, the quantity demanded decreases, and vice versa.)
   d. When the only thing that changes is the price of a product, what relationship exists between the price of a good or service and the quantity producers are willing to sell? (When price rises, the quantity supplied increases, and vice versa.)
   e. What happens in the market if the price is set higher than the market clearing price? (Quantity supplied is greater than quantity demanded.) Point out that this is called a surplus.
   f. At what price does a surplus occur? (All prices above the market clearing price of $34.)
   g. What happens in the market if the price is set lower than the market clearing price? (Quantity demanded is greater than quantity supplied.) Point out that this is called a shortage.
   h. At what price does a shortage occur? (All prices below the market clearing price of $34.)

Closure
Use the questions below to review the key points of the lesson.
1. What is the market clearing price? (The price at which quantity demanded equals quantity supplied.)
2. How is the market clearing price determined? (By the interaction of buyers and sellers in the marketplace.)
3. When will shortages occur? (Shortages occur when price is below the market clearing price.)
4. How does competition influence price? (With competition, no one buyer or seller controls price. Competition among buyers pushes price up. Competition among sellers pushes price down.)

Assessment
Distribute copies of Activity 6. Instruct students to complete the activity.
1. What is the market clearing price for bananas? ($0.69 per pound)
2. In the marketplace, how will this price be determined? Remember, the store managers don’t have the survey information on expected purchases that the students collected. (The market clearing price will be determined by both buyers and sellers through their interaction in the marketplace. The market in bananas will tend to move toward an equilibrium price as buyers and sellers obtain information about the quantity of bananas available at different prices.)
3. What will happen if the store managers try to sell their bananas at $0.89 per pound? (There will be a surplus.)
4. Describe an example of a surplus or a shortage that you have experienced in the marketplace, or that you have read about or heard about from someone else. (Answers will vary.)
BUY CARDS

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $______, you lose money.
Lesson 2.1: Activity 2

SELL CARDS

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $______, you lose money.

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $______, you lose money.

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $______, you lose money.

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $______, you lose money.

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $______, you lose money.

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $______, you lose money.
Lesson 2.1: Activity 3

Score Sheet for “A Market in Crude Oil”

Name: ___________________________________________  
Circle one: Buyer  Seller

Keep track of your progress during the game on this score sheet. Each time you receive a card, record the price on the card in Column A. After you have made a sale or a purchase, write that amount in column B. Repeat this procedure as often as possible until you have completed all three rounds of the game. At the end of the game, determine your gain (column C) or loss (column D) on each transaction. Determine total number of sales, total gains, total losses, and total net gain or loss. Sellers make a gain when they sell for more than the price on their Sell Cards. Buyers make a gain when they pay less than the price on their Buy Cards. Losses are made in just the opposite direction.

<table>
<thead>
<tr>
<th>Transaction Number</th>
<th>Price on Card (A)</th>
<th>Transaction Price (B)</th>
<th>Gain (C)</th>
<th>Loss (D)</th>
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<td>28</td>
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</tr>
</tbody>
</table>

Total Number of Transactions __________________  Total Gains __________________
Total Losses __________________  Total Net Gain or Loss (circle one) __________________
Lesson 2.1: Activity 4

Supply and Demand Schedules

**SUPPLY:** In the following table, the supply schedule in the third column equals the cumulative number of barrels of crude oil available for sale at the price indicated. The cumulative total is found by adding up in the second column all the barrels that will be produced and sold at a given price and at all lower prices. (Obviously, any producer willing to sell a barrel at a price of $28 will still be willing to sell that barrel at a higher price.)

<table>
<thead>
<tr>
<th>Price</th>
<th>Number of Sellers Willing To Sell 1 Barrel of Crude Oil at the Price Indicated or at a Higher Price</th>
<th>Total Quantity Supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>$24</td>
<td>2 sellers</td>
<td>2</td>
</tr>
<tr>
<td>$26</td>
<td>2 sellers</td>
<td>4</td>
</tr>
<tr>
<td>$28</td>
<td>2 sellers</td>
<td>6</td>
</tr>
<tr>
<td>$30</td>
<td>3 sellers</td>
<td>9</td>
</tr>
<tr>
<td>$32</td>
<td>3 sellers</td>
<td>12</td>
</tr>
<tr>
<td>$34</td>
<td>4 sellers</td>
<td>16</td>
</tr>
<tr>
<td>$36</td>
<td>4 sellers</td>
<td>20</td>
</tr>
<tr>
<td>$38</td>
<td>4 sellers</td>
<td>24</td>
</tr>
<tr>
<td>$40</td>
<td>4 sellers</td>
<td>28</td>
</tr>
<tr>
<td>$42</td>
<td>4 sellers</td>
<td>32</td>
</tr>
</tbody>
</table>

**DEMAND:** In the following table, the demand schedule in the third column equals the cumulative number of barrels of crude oil buyers would be willing and able to buy at the price indicated. The cumulative total is found by adding up in the second column the barrels that will be purchased at a given price and at all higher prices. (Obviously, any buyer willing to purchase a barrel at a price of $38 will still be willing to buy that barrel at a lower price.)

<table>
<thead>
<tr>
<th>Price</th>
<th>Number of Buyers Willing To Buy 1 Barrel of Crude Oil at the Price Indicated or at a Lower Price</th>
<th>Total Quantity Demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>$44</td>
<td>2 buyers</td>
<td>2</td>
</tr>
<tr>
<td>$42</td>
<td>2 buyers</td>
<td>4</td>
</tr>
<tr>
<td>$40</td>
<td>2 buyers</td>
<td>6</td>
</tr>
<tr>
<td>$38</td>
<td>3 buyers</td>
<td>9</td>
</tr>
<tr>
<td>$36</td>
<td>3 buyers</td>
<td>12</td>
</tr>
<tr>
<td>$34</td>
<td>4 buyers</td>
<td>16</td>
</tr>
<tr>
<td>$32</td>
<td>4 buyers</td>
<td>20</td>
</tr>
<tr>
<td>$30</td>
<td>4 buyers</td>
<td>24</td>
</tr>
<tr>
<td>$28</td>
<td>4 buyers</td>
<td>28</td>
</tr>
<tr>
<td>$26</td>
<td>4 buyers</td>
<td>32</td>
</tr>
</tbody>
</table>
A Market Survey

Students in an economics class interviewed store managers of local grocery stores. They asked the managers to estimate how many pounds of bananas they would likely try to sell at their store next month, at each of five different prices selected by the class.

This is the average response for all of the stores, based on what the students learned from the managers.

<table>
<thead>
<tr>
<th>Price per pound</th>
<th>$0.89</th>
<th>$0.79</th>
<th>$0.69</th>
<th>$0.59</th>
<th>$0.49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity sold</td>
<td>1000</td>
<td>900</td>
<td>800</td>
<td>700</td>
<td>600</td>
</tr>
</tbody>
</table>

The students also asked 100 adult shoppers at these grocery stores to estimate how many pounds of bananas each of them would buy next month at each of the prices selected by the class. Then they multiplied the average response from these 100 shoppers by the typical number of shoppers who will use the stores next month, based on what the store managers told them about their usual number of customers. This is what the students learned about average purchases of bananas that could be expected next month, based on the information provided by the consumers and store managers.

<table>
<thead>
<tr>
<th>Price per pound</th>
<th>$0.89</th>
<th>$0.79</th>
<th>$0.69</th>
<th>$0.59</th>
<th>$0.49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity sold</td>
<td>600</td>
<td>700</td>
<td>800</td>
<td>900</td>
<td>1000</td>
</tr>
</tbody>
</table>

Based on this information, answer the following questions.

1. What is the market clearing price for bananas?
2. In the marketplace, how will this price be determined? Remember, the store managers don't have the survey information on expected purchases that the students collected.
3. What will happen if the store managers try to sell their bananas at $0.89 per pound?
4. Describe an example of a surplus or a shortage that you have experienced in the marketplace, or that you have read about or heard about from someone else.
Sample Buy/Sell Cards

You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than $____________, you lose money.

You are authorized to **SELL 1 barrel of crude oil** for as **much** as possible. If you accept less than $____________, you lose money.
Class Tally Sheet

<table>
<thead>
<tr>
<th>Price per Barrel</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Round 3</th>
<th>Total of Rounds 2 and 3</th>
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</thead>
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<tr>
<td>$24</td>
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</table>
Lesson 2.1: Visual 3

Graphing Supply, Demand, and Market Clearing Price

![Graph showing supply and demand curves]

Price per Barrel

Barrels
Lesson 2.2: Shifts in Supply and Demand


Part A.

After each situation, fill in the blank with the letter of the graph that illustrates the situation. You may use a graph more than once. The product being considered is jelly beans.

1. The price of sugar increases. _________________
2. The price of bubble gum, a close substitute for jelly beans, increases. _________________
3. A machine is invented that makes jelly beans at a lower cost. _________________
4. The government places a tax on foreign jelly beans that have a considerable share of the market. _________________
5. The price of soda pop, a complementary good for jelly beans, increases. _________________
6. Widespread prosperity allows people to buy more jelly beans. _________________

Part B.

Connecticut ships large amounts of apples to all parts of the United States by rail. Circle words that show the effects on price and quantity for each situation, and complete the graphs below showing how a hurricane that destroys apples before they are picked in Connecticut might affect the price and quantity of:

1. Apples in Boston
   - Price: Rises Stays the same Falls
   - Quantity: Rises Stays the same Falls

2. Land devoted to apple orchards in the state of Washington
   - Price: Rises Stays the same Falls
   - Quantity: Rises Stays the same Falls
Lesson 2.2, cont’d.

3. Apples grown in the state of Washington
   
<table>
<thead>
<tr>
<th>Price</th>
<th>Rises</th>
<th>Stays the same</th>
<th>Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Rises</td>
<td>Stays the same</td>
<td>Falls</td>
</tr>
</tbody>
</table>

4. Pears
   
<table>
<thead>
<tr>
<th>Price</th>
<th>Rises</th>
<th>Stays the same</th>
<th>Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Rises</td>
<td>Stays the same</td>
<td>Falls</td>
</tr>
</tbody>
</table>

5. Apple pies
   
<table>
<thead>
<tr>
<th>Price</th>
<th>Rises</th>
<th>Stays the same</th>
<th>Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Rises</td>
<td>Stays the same</td>
<td>Falls</td>
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</tbody>
</table>

6. The wages of apple pickers in Connecticut
   
<table>
<thead>
<tr>
<th>Price</th>
<th>Rises</th>
<th>Stays the same</th>
<th>Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Rises</td>
<td>Stays the same</td>
<td>Falls</td>
</tr>
</tbody>
</table>

Part C.
Read the following news story (based on an article in Newsweek, July 13, 1992) and use the graphs to show how the information in the story might affect various markets.

Cancer researchers have reported that hair dyes may be a cause of cancer. Writing in The Journal of Public Health, researchers at the National Cancer Institute reported that women who dye their hair may increase their risk of lymphoma by 50%.

Hair dyes
   
<table>
<thead>
<tr>
<th>Price</th>
<th>Rises</th>
<th>Stays the same</th>
<th>Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Rises</td>
<td>Stays the same</td>
<td>Falls</td>
</tr>
</tbody>
</table>

Wigs

Plastic gloves

Beauticians

Wig makers

Plastic glove makers
Suggested Solutions—
Lesson 2.2: Shifts in Supply and Demand

Part A.

1. The price of sugar increases. B
2. The price of bubble gum, a close substitute for jelly beans, increases. C; could also be B if the student says suppliers could produce gum instead of jelly beans.
3. A machine is invented that makes jelly beans at a lower cost. A
4. The government places a tax on foreign jelly beans that have a considerable share of the market. B
5. The price of soda pop, a complementary good for jelly beans, increases. D
6. Widespread prosperity allows people to buy more jelly beans. C

Part B.

1. Apples in Boston
   - Price: Rises
   - Quantity: Falls

2. Land devoted to apple orchards in the state of Washington
   - Price: Rises
   - Quantity: Rises
Suggested Solutions—Lesson 2.2, cont’d.

3. Apples grown in the state of Washington
   - Price: Rises
   - Quantity: Rises

4. Pears
   - Price: Rises
   - Quantity: Rises

5. Apple pies
   - Price: Rises
   - Quantity: Falls

6. The wages of apple pickers in Connecticut
   - Price: Falls
   - Quantity: Falls

Part C.
Workshop 3
The Government’s Hand

Description

This workshop session explores the role of government in a market economy. The classroom activities emphasize that government protects property rights, corrects market failures, provides for pure public goods, and provides other goods and services. Kendra Cheese’s ninth-grade class at Lakewood Senior High School in Colorado participates in a simple but effective simulation, which shows how the protection of property rights conserves and develops resources.

The workshop also demonstrates why government policies can fail. Public-choice theorists believe politicians and government officials are as self-interested as businesspeople. For these reasons, they respond to concentrated special interests over the diffused interests of the general public. Steve Reich’s class at Valhalla High School in New York uses the “Corny Fuels Mystery” to illustrate public-choice theory.

Finally, government policies can cause unintended consequences, many of which are harmful. This is particularly true of price ceilings and floors. The unintended consequences of shortages and surpluses are demonstrated by Heather Anderson’s class at Eau Gallie High School in Melbourne, Florida, and Dee Mecham’s class at Kamehameha High School in Honolulu.
Key Concepts

- Private ownership of property provides incentives that promote economic progress. An important function of government is to protect property rights.
- The economic functions of government include enforcing laws and contracts, maintaining competition, protecting property rights, redistributing income, providing public goods, and correcting market failures.
- Government policies can fail as easily as the market can fail. Public-choice theorists believe politicians and government officials are as self-interested as businesspeople. However, instead of trying to maximize profits, “political entrepreneurs” seek to maximize power, salaries, prestige, and votes. This behavior results in government waste and inefficiency.
- Government policies can have unintended consequences that negate the intended effect of those policies. Price ceilings and floors are examples of this type of government policy.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

- Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporations, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and enforced property rights, is essential to a market economy. (Content Standard 10)
- There is an economic role for government in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income. (Content Standard 16)
- Costs of government policies sometimes exceed benefits. This may occur because of incentives facing voters, government officials, and government employees, because of actions by special interest groups that can impose costs on the general public, or because social goals other than economic efficiency are being pursued. (Content Standard 17)
Workshop Session

Getting Ready (15 minutes)
1. Brainstorm on all the goods, services, and types of protection that local, state, and federal governments provide. Make a list.
2. Brainstorm on all the local, state, and federal taxes we pay for these goods, services, and protection.
3. Discuss whether we receive good value from governments for the goods and services they provide and we pay for.

Watching and Discussing the Video (90 minutes)
1. View Section One (property rights). (15 minutes)
2. Read and discuss Lesson 3.1, “Property Rights Simulation.” (15 minutes) In small groups, answer these questions about the simulation:
   • What did Kendra Cheese do to make the simulation work?
   • Would the simulation work as well if Kendra paid the students in extra-credit points or pieces of candy?
   • Would the simulation work as well if the students could not keep the money?
   • What concepts should students learn from this simulation, and what should the teacher do to make sure the students learn these concepts?
3. View Section Two (incentives and public policy). (13 minutes)
4. Discuss the mystery approach to teaching economics. (17 minutes) Form small groups and discuss the elements of creating your own mystery. Some things to consider are clipping news articles that seem odd, developing a primary proposition, developing an opposing proposition, writing the mystery, exploring students’ questions and misconceptions about economics, and focusing on the economic principles that explain the mystery.
5. View Section Three (price floors), Section Four (price ceilings), and Section Five (price controls). (30 minutes)

Closure (15 minutes)
In small groups, answer the questions in Lesson 3.2, “Price Floors and Ceilings.” Compare the group’s answers to the suggested solutions.

Overview
An important function of government is to protect property rights. Ownership of private property is a key component of a market economy. Private ownership of resources creates incentives for owners to use those resources wisely. Because owners receive the benefits of their property, they generally try to use it in the most valuable way. This can provide both private and public benefits for society.

This simulation shows that ownership of property encourages wise stewardship of that property, encourages people to develop and use their property productively, provides an incentive to use their property in ways beneficial to others, and promotes the conservation of resources for the future.

The absence of private ownership creates incentives to abuse the resource. “The tragedy of the commons” is an expression dating back over 150 years. William Frank Lloyd attributed the destruction of pastures to overuse because no one owned “the commons." Today, the tragedy of the commons can be seen in the destruction of the environment and the failure to protect endangered species.

This simulation simplifies property rights. Private ownership involves not only legal protection against non-owners, but also the right to exclusive use and the right to sell or transfer the property to other owners. Nevertheless, the simulation clearly shows why lack of ownership creates incentives leading to “the tragedy of the commons.”

Materials
- At least 10 paper clips
- Nickels and dimes
- Two transparencies—one blank and one divided into six squares

Procedures
1. Gather six volunteers around an overhead projector. Put 10 paper clips, which represent fish, on the projector and turn it on. Tell the students they fish for a living. Some have families who depend on their ability to catch and sell fish. If they catch fewer fish, or if the price of fish declines, they and their families suffer. You can also use other animals, such as whales, tigers, or elephants.

2. Begin round one, which consists of two 30-second time periods. Tell the students you will give them 5 cents for each paper clip (fish) they give you during the first 30-second period. If they wait until the second 30-second period, you will give them 10 cents for each paper clip. Only paper clips left over at the end of the first 30 seconds will be available to be picked up during the second period.

3. In almost all cases, all the paper clips are picked up in the first 30-second time period, and there is no second 30-second time period. Pay the students.

4. Before beginning round two, put a transparency divided into six squares on the overhead projector. Put one or two paper clips in each of the six squares. Put at least one paper clip across a line so that it isn’t in one specific square. Explain to the students they are still fishers. However, now they own the fish in their squares. No one else can touch his or her fish without permission. If someone takes a paper clip from another student’s square, he or she will have to return it and pay a $10 fine. Otherwise, follow the same rules as in round one. If students give you a paper clip in the first 30 seconds, they get 5 cents. If they give you a paper clip in the second 30 seconds, they get 10 cents. Only the paper clips left over at the end of the first 30 seconds can be picked up during the second 30 seconds.
5. Begin round two. It is likely that only the paper clip(s) on the line will be picked up during the first 30-second period. Perhaps a student who isn't into deferred gratification will pick up his or her paper clip, but it is unlikely. Give 5 cents for any paper clip given to you. Begin the second 30-second time period. All paper clips should be picked up. Give 10 cents for each paper clip.

Debriefing

1. Why do the students think everyone grabbed the paper clips in the first 30 seconds of round one? *(No one had property rights. If a student waited too long, another student would get the paper clip and the money even though the paper clips were worth twice as much in the second 30 seconds.)*

2. Why did the students wait until the second 30 seconds to pick up the paper clips in round two? Why was the paper clip on the line probably picked up in the first 30 seconds? *(The students controlled [owned] their paper clips, so they could wait and get more value for them. It wasn't clear who owned the paper clip on the line.)*

3. How did assigning property rights change the incentives for the players? *(Because the students could control when their paper clips would be picked up in the second round, they received the benefits of waiting. When there were no property rights [round one], waiting meant getting no money at all.)*

4. Why are there so many chickens and so few whales? *(Chickens are privately owned. If farmers killed their chickens, they would not have any to sell in the future. But whales roaming the oceans have no owners. Whalers have no reason not to kill whales right away, before other whalers do. To hold back risks the opportunity to harvest and sell a whale someone else could kill first. The lack of ownership creates a great danger to whales.)*
Lesson 3.2: Price Floors and Ceilings


Price floors and ceilings can be plotted with supply and demand curves. Use the chart to answer the questions. Fill in the answer blanks and, where applicable, circle the correct word in parentheses.

1. What is the market price? _______________

2. What quantity is demanded and what quantity is supplied at the market price?
   a. Quantity demanded _______________
   b. Quantity supplied _______________

3. What quantity is demanded and what quantity is supplied if the government passes a law requiring the price to be no higher than $30? This is called a price ceiling.
   a. Quantity demanded _______________
   b. Quantity supplied _______________
   c. There is a (shortage/surplus) of _______________

4. What quantity is demanded and what quantity is supplied if the government passes a law requiring the price to be no lower than $80? This is called a price floor.
   a. Quantity demanded _______________
   b. Quantity supplied _______________
   c. There is a (shortage/surplus) of _______________.

A Price Floor and Ceiling

[Diagram showing the relationship between price and quantity, with price floor and price ceiling marked.]
Price floors and ceilings can be plotted with supply and demand curves. Use the chart to answer the questions. Fill in the answer blanks and, where applicable, circle the correct word in parentheses.

1. What is the market price? $50

2. What quantity is demanded and what quantity is supplied at the market price?
   a. Quantity demanded 120
   b. Quantity supplied 120

3. What quantity is demanded and what quantity is supplied if the government passes a law requiring the price to be no higher than $30? This is called a price ceiling.
   a. Quantity demanded about 160
   b. Quantity supplied about 60
   c. There is a shortage of about 100.

4. What quantity is demanded and what quantity is supplied if the government passes a law requiring the price to be no lower than $80? This is called a price floor.
   a. Quantity demanded about 60
   b. Quantity supplied about 200
   c. There is a surplus of about 140.
Workshop 4

Learning, Earning, and Saving

Description

Most high school economics courses include a unit on personal finance. The key to an effective personal finance curriculum is to apply economic concepts and an economic way of thinking to personal decision-making. A personal finance unit should include earning an income, as well as spending, saving and investing, borrowing, and managing money. Economics covers more than money, but particularly at the high school level, it covers money and personal finance.

Perhaps the most important lesson students can learn in the personal finance unit is that to become financially secure, people must save early and often. Marc Johnson's class at Smoky Hill High School in Aurora, Colorado, plays the “How To Really Be a Millionaire” game. They find that preconceptions about millionaires are not necessarily so and learn rules for improving their financial lives. Heather Anderson, from Eau Gallie High School in Melbourne, Florida, dramatically illustrates the power of compound interest to her class using “The Chessboard of Financial Life” simulation. Finally, Eliot Scher, from White Plains High School in White Plains, New York, has his students participate in a stock market simulation to get them interested in investing.
Key Concepts

• Higher education greatly increases lifetime earnings. On average, high school graduates earn more than high school dropouts, and college graduates earn more than high school graduates.

• Compound interest can work for or against you. If you save early and often, it works for you. If you borrow early and often, compound interest works against you.

• Good money-management skills improve your financial well-being.

• Wise personal decision-making involves identifying criteria and using those criteria to make decisions. Consumers must make decisions because resources are limited and wants are unlimited. Consumer decisions always involve costs, benefits, and trade-offs.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

• Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something; few choices are “all or nothing” decisions. (Content Standard 2)

• Income for most people is determined by the market value of the productive resources they sell. What workers earn depends, primarily, on the market value of what they produce and how productive they are. (Content Standard 13)
Workshop Session

Getting Ready (20 minutes)

- Participants should tell the group which two personal-finance topics they feel are the most important to teach in their economics class.
- Have one participant write the topics on the board.
- Determine which three topics are the most important and why.

Watching and Discussing the Video (90 minutes)

1. View Section One (salaries and wages), Section Two (The Millionaire Game), and Section Three (education pay-off). (26 minutes)
2. Form small groups to discuss Visual 2 in The Millionaire Game (Lesson 4.1). (10 minutes)
   - What are some examples that support these rules for improving your financial life?
   - The game is clearly fun for Mark’s students. What are the educational reasons for playing the game?
   - Are there any misrepresentations or overgeneralizations in the Millionaire Game?
3. View Section Four (compound interest). (14 minutes)
4. Now play “The Chessboard of Financial Life” in a different way. (12 minutes)
   - Appoint a participant to play the role of the teacher.
   - Now ask, “Would you take $10,000 or one cent doubled until the end of the third row of boxes?” Use Lesson 4.2.
   - At the end of each row, ask the question again to see if anyone has changed his or her mind. How many people changed their minds?
   - How much money would you have by the end of the third row?
   - What other activities can you suggest to illustrate the power of compound interest?
5. View Section Five (stock market). (15 minutes)
6. Discuss the advantages and disadvantages of stock market simulations. (13 minutes)
   - What are the advantages of using an online stock market simulation in your classroom?
   - What are the disadvantages of using an online stock market simulation in your classroom?
   - How does an online stock market simulation misrepresent basic principles of investing?
   - What additional curriculum materials does a teacher need to supplement a stock market simulation?
   - What activities can a teacher use to teach the benefits of long-term investing as opposed to short-term investing?
   - Should a personal-finance curriculum place more emphasis on the benefits of regular saving or on strategies for investing in the stock market?
Workshop Session, cont’d.

Closure (10 minutes)

• Write your own list of rules for improving your financial life. Share them with the other participants.
• Make a list of the instructional activities packages you use to teach personal finance. Which two do you think are the most effective?
Lesson 4.1: How To Really Be a Millionaire


Fitness Focus:

Lesson Description
This lesson is designed to get students interested in personal finance. Financial planning may seem dull and laborious, but finding out how to become a millionaire is an activity that tends to stir up considerable interest. This lesson shows the students that they are unlikely to achieve wealth without self-discipline. Achieving personal wealth involves planning and making sound choices, such as getting a good education, spending wisely, saving early and often, and taking prudent risks. The lesson here is not that the only goal in life is to become rich. Wealth, in itself, is no guarantee of happiness. Nevertheless, wealth provides the freedom to have more choices in life.

This lesson is correlated with national standards for economics as well as the national guidelines for personal financial management as shown in Tables 1 and 2 in the front of the book Financial Fitness for Life.

Student Objectives
At the end of this lesson, the student will be able to:

• Describe the characteristics of millionaires.
• Illustrate how sound financial decisions can increase wealth and a person's standard of living.

Materials

• Visual 1: The Millionaire Game
• Visual 2: Rules for Improving Your Financial Life
• Activity 1: Millionaire Game Score Sheet

Workout:

Warm-Up
Tell the students that the purpose of this lesson is to show how they can make choices that can improve their lives. The lesson has several tips about the accumulation of personal wealth. It introduces ideas that will be explored throughout the study of economics and personal finance.

Exercise
A. Divide the class into groups of three. To each group, distribute one sheet of paper with “T” on one side and “F” on the other, and one sheet with “Millionaire” written on it.

B. Explain the rules of The Millionaire Game.
   1. Choose a spokesperson for each group.
   2. All students in the group must tell the spokesperson what they think the right answers are for the questions on Visual 1.
   3. The majority prevails whenever the group disagrees on the answer.
   4. The spokesperson must hold up the sheet of paper with “T” and “F” to indicate the group's decision on the question. The teams must answer each question. The spokesperson may also hold up the “Millionaire” sign if the group wants to use this option.
   5. Each group gets five points for each correct answer. Each group loses five points for each incorrect answer.
   6. Each group may choose to “Millionaire” on any question up to a total of five questions. If the group answers correctly, it receives 10 points; if the group answers incorrectly, it loses 10 points from its current score. Groups should use this tactic on questions they are most confident about answering correctly.
Lesson 4.1, cont’d.

7. A total of 100 points is a perfect score. To earn this score, the students must answer all questions correctly and “Millionaire” correctly on five questions.

8. The team with the most points wins and is declared The Millionaires of Tomorrow.

C. Display Visual 1, “The Millionaire Game,” on the overhead projector. At first, keep all the questions covered. Show the students one question at a time so they do not see them all at once.

D. For each question, ask the students to decide in their group if they think the statement is true or false. Then the spokesperson holds up the “True/False” sign to show the group’s decision to the class. The spokesperson should also hold up the “Millionaire” sign if this tactic was chosen for this question. Make sure these sheets are raised simultaneously to discourage some groups from waiting to see what other groups decided. Or the groups can write their answers to all the questions first and then calculate their score.

E. While the students keep track of their scores on Activity 1, “Millionaire Game Score Sheet,” keep a point total on the board so that each group can see how it is performing relative to other groups. They will use this information to decide when to go “Millionaire.”

F. Discuss the answers, shown below, as the students answer each question or at the end of the game. Explain to the students some basic principles for getting rich and living a more satisfying life.

1. **True.** Four of five millionaires are college graduates. Eighteen percent have master’s degrees, 8% law degrees, 6% medical degrees, and 6% Ph.D.s.

2. **False.** About 2/3 of millionaires work 45 to 55 hours a week.

3. **True.** Only 19% of millionaires received any income or wealth of any kind from a trust fund or an estate. Fewer than 10% of millionaires inherited 10% or more of their wealth.

4. **False.** Only 28.6% of millionaires have American Express Gold Cards while 43% have Sears credit cards. Only 6.2% of millionaires have American Express Platinum Cards.

5. **True.** Ford is preferred by 9.4% and Cadillac by 8.8%. Lincoln comes in third at 7.8%. Only 23% of millionaires drive a current-year (new) car.

6. **False.** A majority of millionaires are in ordinary industries and jobs. They are proficient in targeting marketing opportunities.

7. **False.** About three out of four millionaires are self-employed and consider themselves to be entrepreneurs. Most of the others are professionals, such as doctors, accountants, and lawyers.

8. **False.** Few people get rich the easy way. If you play the lottery, the chances of winning are about one in 12 million. The average person who plays the lottery every day would have to live about 33,000 years to win once. In contrast, you have a one in 1.9 million chance of being struck by lightning. A pregnant woman has one chance in 705,000 live births to have quadruplets. How many sets of quadruplets do you know?

9. **True.** In recent years, the average college graduate earned 66% more than the average high school graduate did. People with professional degrees earned 150% more than high school graduates did.

10. **True.** Of course, a normal person would spend some of the difference, but it is a dramatic illustration of how valuable a high school diploma is. The difference in earnings between a high school graduate and a high school dropout is $8000 at age 18. The illustration assumes the difference increases by 1.5% each year and that the difference is invested at 8% interest each year.

11. **False.** Recent studies show that 80% of day traders lose money.
12. **False.** Long term (starting in 1926 and including the Great Depression), the Standard & Poor’s 500 Stock Index has increased at about an 11% compound annual rate of return, exceeding the return on any other investment. Of course, there is risk. The stock market has down years, and there is no guarantee of an 11% return in the future, especially in the short run. In contrast, the long-term return on risk-free U.S. government securities during the same period ranged from 5% to 6%. The actual return depended on the term of the bond. Another way of looking at this is that $1.00 invested in the S&P 500 on January 1, 1926, was worth $1,828 on December 31, 1997. One dollar invested in long-term government bonds during the same period was worth $39 on December 31, 1997. It probably paid to take the additional risk of buying stocks.

13. **True.** Because of the power of compound interest, small savings can make a difference. It pays to resist temptation and live below your means.

14. **True.** Because of the power of compound interest, the earlier you begin saving the better. Regular saving will make you a millionaire, even if your salary is modest.

15. **False.** Most millionaires are married and stay married. By contrast, divorce is a gateway to poverty. Financially speaking, divorce is something you want to avoid, particularly after you have children. It is important to choose a marriage partner carefully.

G. At the end of the game, display Visual 2, “Rules for Improving Your Financial Life,” and go over the principles. Show that these rules are derived from the answers to the questions in The Millionaire Game.

**Cool Down**
A. Have the students write a brief essay on “How To Really Become a Millionaire.”

B. The answers to this test come primarily from two excellent sources:
The Millionaire Game

Answer each question “True” or “False.” For each correct answer, you will receive five points. For each incorrect answer, you will lose five points. For any five questions, you may hold up the “Millionaire” sheet with your answer. If you answer correctly, you will receive 10 points. If you answer incorrectly, you will lose 10 points.

1. Most millionaires are college graduates.
2. Most millionaires work fewer than 40 hours a week.
3. More than half of all millionaires never received money from a trust fund or estate.
4. More millionaires have American Express Gold Cards than Sears cards.
5. More millionaires drive Fords than Cadillacs.
6. Most millionaires work in glamorous jobs, such as sports, entertainment, or high tech.
7. Most millionaires work for big Fortune 500 companies.
8. Many poor people become millionaires by winning the lottery.
9. College graduates earn about 65% more than high school graduates earn.
10. If an average 18-year-old high school graduate spends as much as an average high school dropout until both are 67 years old, but the high school graduate invests the difference in his or her earnings at 8% annual interest, the high school graduate would have $5,500,000.
11. Day traders usually beat the stock market and many of them become millionaires.
12. If you want to be a millionaire, avoid the risky stock market.
13. At age 18, you decide not to smoke and save $1.50 a day. You invest this $1.50 a day at 8% annual interest until you are 67. At age 67, your savings from not smoking are almost $300,000.
14. If you save $2000 a year from age 22 to age 65 at 8% annual interest, your savings will be over $700,000 at age 65.
15. Single people are more often millionaires than married people.
Rules for Improving Your Financial Life

1. Get a good education.
2. Work long, hard, and smart.
3. Learn money-management skills.
4. Spend less than you could spend.
5. Save early and often.
6. Invest in common stocks for the long term.
7. Gather information before making decisions.
Lesson 4.1: Activity 1

The Millionaire Game Score Sheet

1. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

2. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

3. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

4. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

5. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

6. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

7. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

8. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

9. **True** or **False** (circle one)  
   Score (-5 or +5)  
   (Millionaire card -10 or +10)  

10. **True** or **False** (circle one)  
    Score (-5 or +5)  
    (Millionaire card -10 or +10)  

11. **True** or **False** (circle one)  
    Score (-5 or +5)  
    (Millionaire card -10 or +10)  

12. **True** or **False** (circle one)  
    Score (-5 or +5)  
    (Millionaire card -10 or +10)  

13. **True** or **False** (circle one)  
    Score (-5 or +5)  
    (Millionaire card -10 or +10)  

14. **True** or **False** (circle one)  
    Score (-5 or +5)  
    (Millionaire card -10 or +10)  

15. **True** or **False** (circle one)  
    Score (-5 or +5)  
    (Millionaire card -10 or +10)  

Workshop 4 - 66 - The Economics Classroom
Lesson 4.2: The Chessboard of Financial Life


Which would you choose? $10,000 in cold cash or a penny doubled on each square in “The Chessboard of Financial Life” until you reach the final square?
Suggested Solutions—  
Lesson 4.2: The Chessboard of Financial Life

1. Have students use a calculator to fill in the squares on “The Chessboard of Financial Life.” On basic calculators, they would enter $2 \times .01 = .02$. Instruct them to continue hitting the $=\text{key}$; that will double the amount each time. Simply count as you hit the key each time. (The key sequence is sometimes reversed for scientific calculators, .01 $\times 2 =$, or the $K$ key must be used. Check the instructions for the calculators your students are using.) Record the amount on the transparency or board. By the 21st square, students will have $10,485.76$. Most basic calculators will display an error $E$ in the upper millions in square 34. A scientific calculator will take you all the way to the end (the 64th square) and display the result in scientific notation—$9.2E16$ or $9.2$ times $10$ to the $16$th power.

2. Tell students that the continual process of multiplying that turned this penny into hundreds, then thousands, then millions, billions, trillions, and beyond, is called compounding. Explain that compounding is important to savers. For each dollar saved in a savings account the bank pays interest. This interest is added to the principal, the amount originally saved; then additional interest is paid on both. This compound interest makes money grow much faster. Eventually, money will double, as pennies did on this chessboard. The time it takes to double depends on the interest rate.
Workshop 5
Trading Globally

Description

Economists are accused of not agreeing on anything. Actually, economists agree on most principles of economics, and almost all economists agree on the issue of trade. Trade is good and protectionism is bad. Protectionism robs from the many to give to the few and violates the principles of fairness and efficiency. Limiting trade means lowering the standard of living for the world. Free trade is under fire today, but most economists vigorously defend it.

In this video workshop, Jay Grenawalt shows his students at George Washington High School in Denver how extensive international trade is and how it improves our standard of living. Dr. Eric Gernant from the New York City High School of Economics and Finance illustrates how the ingredients in a single candy bar come from around the world. He also illustrates the gains from trade, using the law of comparative advantage. Finally, Elaine Schwartz has her students from Kent Place School in Summit, New Jersey, participate in a “banana wars” simulation that illustrates the unintended consequences of protectionism.
Key Concepts

• People and nations trade in order to improve their standard of living.
• Because trade is the voluntary exchange of goods and services, the decision to trade will occur only if both parties to the exchange expect to gain from it.
• Voluntary trade promotes economic progress because it allows people to specialize in what they do best.
• The law of comparative advantage explains why there are mutual gains from specialization and trade.
• Comparative advantage occurs when a nation can produce a good at a lower opportunity cost than another nation. Relative costs determine comparative advantage.
• Trade barriers such as tariffs and quotas limit the potential gains from trade. Generally, they protect domestic sellers at the expense of domestic buyers. They reduce efficiency in the allocation of scarce resources and slow down economic progress.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

• Voluntary exchange occurs only when all participating parties expect to gain. This is true for trade among individuals or organizations within a nation, and usually among individuals or organizations in different nations. (Content Standard 5)
• When individuals, regions, and nations specialize in what they can produce at the lowest cost and then trade with others, both production and consumption increase. (Content Standard 6)
Workshop Session

Getting Ready (20 minutes)

1. Read Lesson 5.1, “Working and Living Together: The Importance of Trade.”
2. Conduct the lesson. After making a list, locate each of the countries on a world map.
3. Going around the room, have each person answer one of the 16 questions in the lesson.

Watching and Discussing the Video (90 minutes)

1. View Section One (global trade) and Section Two (gains from trade). (20 minutes)
2. Discuss Sections One and Two. (10 minutes)
   • What did the students learn from the label-search game?
   • How does the label-search game misrepresent trade with the United States? (Hint: Trade consists of imports and exports and involves far more than consumer goods.)
   • Do you think the label-search game would be effective with your students? Why or why not?
   • What examples did Jay Grenawalt use to illustrate the law of comparative advantage? Can you give additional examples?
   • How does trade disprove the economics cliché, “There is no such thing as a free lunch”?
   • What does the fact that Michael Jordan should hire a gardener and a lawyer should hire a typist have to do with comparative advantage and international trade?
   • How did Jay bring out the students’ attitudes toward globalization? What techniques did he use?
   • In an interview, Jay said, “I don’t care what opinion kids have as long as they use sound economics.” Does “sound economics” preclude certain opinions?
3. View Section Three (comparative advantage and specialization). (15 minutes)
4. Discuss Section Three. (5 minutes)
   • Could a candy bar be produced without trade? Why is this important?
   • What activities besides the label search and candy bar example could be used to teach international trade?
   • What is the difference between absolute and comparative advantage?
   • Why is specialization important in economics?
   • True, false, or uncertain? Why? “Self-sufficiency is the road to poverty.”
   • What would a world without trade be like?
   • Can nations trade if one nation does everything better than another nation?
5. View Section Four (protectionism). (19 minutes)
6. Organize the entire group to conduct Lesson 5.2, the “Banana Wars” simulation, which was done in Elaine Schwartz’s class at Kent Place School. (20 minutes) Follow the directions to set up and conduct the simulation, and then answer these questions about the simulation:

- What makes a simulation like this effective?
- What are some of the unintended consequences of banana quotas?
- Who benefited and who suffered from banana quotas?
- If tariffs and quotas always lower the world’s standard of living, why do nations impose them?

**Closure (15 minutes)**

Break into small groups. Each group should evaluate one of the following arguments against trade and give an example of how they would teach this in class. A spokesperson from each small group will report to the entire group.

- Tariffs protect jobs.
- International trade hurts the environment.
- International trade allows the governments in poor countries to suppress their people.
- If nations trade, someone gains and someone loses.
- It is best if a country is self-sufficient.
Lesson 5.1:
Working and Living Together: The Importance of Trade


Label Search!

Overview
In this activity, your group must conduct a “label search” in your classroom. This activity will help you realize how much we trade with other countries. The activity also will help you realize how much we benefit from trade.

Your Group Task
Here’s how to do your “label search.”

1. Choose a group leader and recorder. Each group member must search the classroom and identify at least five articles of clothing or other items that have been produced in another country. (Try to identify clothing or items that have not been identified by members of another group.) Use scrap paper to record the name of the item and the country. Be specific with your descriptions. For example, instead of recording just “coat,” give a more precise response, such as “John’s blue coat.”

2. After your group members have conducted their search, meet together as a group and complete the “Group Activity Response Sheet” (next page). Using your newly gathered information, list 10 articles of clothing or items that have been produced in 10 different countries.

3. Using colored transparency markers, your group recorder should locate each of your 10 countries on a transparency of a world map. The other group recorders will do likewise.

4. Discuss and answer Questions 11-16.
Lesson 5.1, cont’d.

Group Activity Response Sheet

Leader: ______________________________________     Recorder: ______________________________________
Group Members: ______________________________________________________________________________
____________________________________________________________________________________________
____________________________________________________________________________________________

Your Group Task: Use the data gathered by group members to fill in the blanks below. Be specific in your clothing
and item descriptions.

<table>
<thead>
<tr>
<th>CLOTHING OR ITEM DESCRIPTION</th>
<th>COUNTRY WHERE PRODUCED</th>
</tr>
</thead>
<tbody>
<tr>
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<td>9.</td>
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<td>10.</td>
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</tbody>
</table>

11. Analyze your list carefully. What are some specific reasons why these countries specialize in the production
of these clothing items?

12. What patterns do you notice with the locations on the map? Do they cluster in a particular part of the world?

13. When you or someone else buys the clothing or items produced in a foreign country, who benefits? Explain
your answer.

14. Do you think trade makes our country more or less dependent on other countries for the things we want and
need?

15. Do you think it is good or bad to be dependent on other countries for the things we want to buy? Explain
why you think so.

16. Discuss this statement, “To save American textile jobs, Congress should put a quota (limit) on the number of
foreign clothes that are imported into our country.” Present your group’s views to the class.
Lesson 5.2: Banana Wars

The “Banana Wars” lesson was written by Elaine Schwartz, Kent Place School, Summit, N.J.

Overview
The European Union passed legislation that used quotas (a trade barrier) to favor importing bananas from their former colonies in Africa, the Caribbean, and the Pacific rather than from nations in Central and South America. This hurt Chiquita Bananas, which produced bananas in Central America and Ecuador. In this activity, students sequence a series of events from a grab bag and then line up in the chronological order of events. The activity vividly illustrates the secondary effects of trade barriers.

Materials
- Activity 1: Events for Grab Bag
- Activity 2: Banana Wars Chart and Questions

Procedures
1. Discuss the definitions of some of the terms that are used in this lesson.
   - comparative advantage
   - imports
   - exports
   - world price (graph)
   - tariffs (graph)
   - quotas (graph)
   - EU (European Union)
   - WTO (World Trade Organization)
2. Discuss the basic facts of the simulation with the students.
   - The year is 1990.
   - In Europe, approximately 40% of the banana market is controlled by Chiquita.
   - Chiquita Banana is a U.S. company, based in Cincinnati.
   - Chiquita grows bananas in the Caribbean. As the largest grower of bananas in the world, Ecuador is a major source of Chiquita bananas.
   - Combined, the nations that compose the European Union (EU) make it the largest importer of bananas in the world.
   - The year is 1993.
   - The nations that compose the European Union have decided to favor their former colonies in Africa, the Caribbean, and the Pacific (ACP countries) by importing more of their bananas.
   - The EU will primarily use quotas.
   - Ecuador and other nations that grow for Chiquita are not ACP countries. Consequently, Chiquita's exports to the EU decline by approximately 50%.
   - As the lowest-cost producer in the world, Ecuador can produce bananas for close to $162 a metric ton.
Lesson 5.2, cont’d.

- As higher-cost producers because of soil quality and other less-optimal growing conditions, banana growers such as the Ivory Coast produce bananas for as much as $515 a metric ton.
- The U.S. supports Chiquita and takes the case to the WTO.
- The WTO supports the U.S. and says it can retaliate if the EU does not eliminate its trade barriers.
- The EU ignores the WTO.
- The year is 1999.
- The U.S. retaliates by levying 100% tariffs on such European goods as French handbags, Italian pecorino cheese, Scottish cashmere sweaters, and British short bread.
- The year is 2001.
- The EU and U.S. agree to settle their differences. Over a five-year period, the EU will eliminate the present system. In 2006, it will be replaced with a new, less discriminatory system.

3. Cut up the events in Activity 1 and place them in a grab bag. Any container will do. Each entry should be on a separate strip of paper and folded in a box for students to draw.

4. Have the students draw the slips, and line up in what they think is the proper order of events. The correct order should be approximately as follows:
   
   1. The year is 1990.
   2. Banana prices in EU countries equal the world price.
   3. The year is 1993.
   4. Banana quotas that favor ACP nations are imposed.
   5. Banana prices in EU countries are higher than the world price.
   6. 4,000 Chiquita workers lose their jobs.
   7. Low-cost banana growers in Ecuador experience less demand.
   8. High-cost banana growers in the Ivory Coast experience greater demand.
   9. European consumers pay more for bananas.
   10. The year is 1999.
   11. A 100% tariff is levied on pecorino cheese.
   12. U.S. cheese makers experience more demand.
   15. Italian pecorino cheese makers fire workers.
   16. The U.S. and EU agree to diminish banana barriers.
   17. The U.S. eliminates pecorino cheese tariff.
   18. U.S. pecorino cheese prices decline.
   19. EU banana prices move closer to the world price.
   20. U.S. government collects more customs revenue.
5. Debrief the simulation.
   a. Have the students fill in the chart in Activity 2 to show who benefits and who suffers from tariffs and quotas. The suggested solutions are:

<table>
<thead>
<tr>
<th></th>
<th>Benefit</th>
<th>Suffer</th>
</tr>
</thead>
</table>
   | Without quotas | Chiquita  
   |            | Ecuador banana growers  
   |            | Ecuador banana workers  
   |            | EU banana consumers  | Ivory Coast banana growers  
   |            | Ivory Coast banana workers  |
   | With quotas  | Ivory Coast banana growers  
   |            | Ivory Coast banana workers  |
   | Without tariffs | Italian pecorino cheese producers  
   |            | U.S. pecorino cheese consumers  |
   | With tariffs  | Italian pecorino cheese producers  
   |            | U.S. pecorino cheese consumers  |

   b. Using the completed chart, have students answer these questions, which are at the bottom of the chart.

   1. Who benefits from trade barriers? *(Producers who are protected)*
   2. Who is hurt by trade barriers? *(Consumers)*
   3. On balance, do trade barriers benefit or harm the economy? Why? *(The costs to consumers and economic efficiency outweigh the benefits for protected producers. Many people believe an economic system should encourage efficiency and equity or fairness. Sometimes these goals are in conflict. However, trade barriers hurt both. Trade barriers favor some producers over others. They hurt all consumers, and less competition hurts business efficiency and businesses become less responsive to consumers.)*
Events for Grab Bag

Cut up these events and put them in a grab bag.

The year is 1999.
Italian pecorino cheese makers fire workers.
Banana prices in EU countries equal the world price.
Banana prices in EU countries are higher than the world price.
The year is 1993.
The year is 1990.
EU banana prices move closer to the world price.
High cost banana growers in the Ivory Coast experience greater demand.
Low cost banana growers in Ecuador experience less demand.
A 100% tariff is levied on pecorino cheese.
European consumers pay more for bananas.
4000 Chiquita banana workers lose their jobs.
Italian producers of pecorino cheese experience less demand.
U.S. cheese makers experience more demand.
U.S. consumers pay more for pecorino cheese.
The U.S. eliminates pecorino cheese tariff.
The U.S. and EU decide to diminish banana barriers.
U.S. government collects more customs revenue.
U.S. pecorino cheese prices decline.
Banana quotas that favor ACP nations are imposed.
Banana Wars Chart and Questions

Using the "banana wars" chart (below), note where each of the following belongs.

- Chiquita
- Ecuador banana growers
- Ecuador banana workers
- Ivory Coast banana growers
- Ivory Coast banana workers
- EU banana consumers
- Italian pecorino cheese producers
- U.S. pecorino cheese consumers

<table>
<thead>
<tr>
<th></th>
<th>Benefit</th>
<th>Suffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without quotas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With quotas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without tariffs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With tariffs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Answer the following questions:

1. Who benefits from trade barriers?

2. Who is hurt by trade barriers?

3. On balance, do trade barriers benefit or harm the economy? Why?
Workshop 6
The Building Blocks of Macroeconomics

Description

Macroeconomics is the study of the behavior of the economy as a whole—and the whole often behaves differently than the individual parts.

This workshop illustrates activities that teach about the basic measurement tools of any economy: gross domestic product (GDP), unemployment, and inflation. These measurement tools can seem abstract, but GDP and economic growth, unemployment, and inflation can have a profound effect on students’ future welfare, their job opportunities, the level of their prospective earnings, and the prices they will pay for the things they buy.

Brett Hardin introduces macroeconomics to his students at Campbell High School in Smyrna, Georgia, using an economics newspaper he created, the Econo Post. Next, Anna Vanlandingham’s class at Lake Mary High School in Florida learns the components of GDP to see how economists arrive at several definitions of economic growth. Brett Hardin’s class discovers that there are actually several different types of unemployment and that statistics often do not capture the true costs of unemployment to the people who are unemployed. Eliot Scher’s students at White Plains High School in New York learn about inflation by looking at the changing costs of everyday items. We return to Brett’s class to explore the impact of inflation on certain types of employees and businesses. And in the final segment, Ted Hartsoe shows his students at Choate Rosemary Hall in Wallingford, Connecticut, how price indexes help us measure inflation.

Inflation creates winners and losers. Eliot Scher’s class at White Plains High School in New York examines the effects of inflation, while Ted Hartsoe’s students at Choate Rosemary Hall in Wallingford, Connecticut, develop a teenage price index to learn how inflation is measured.
Key Concepts

- Gross domestic product (GDP) is the market price of all final goods and services produced in one year. It is the most important measurement of production and output.
- Real GDP is adjusted for price changes; nominal GDP is not adjusted for price changes.
- Unemployment occurs when people who are willing and able to work cannot find jobs at satisfactory wage rates.
- The unemployment rate represents the percentage of the labor force that cannot find work on acceptable terms.
- Unemployment is classified into four categories: frictional, cyclical, structural, and seasonal.
- Inflation is a general increase in the overall price level, which is measured by price indexes.
- Generally, savers, lenders, and people on fixed incomes are hurt by unanticipated inflation, whereas borrowers gain from unanticipated inflation.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

- A nation's overall levels of income, employment, and prices are determined by the interaction of spending and production decisions made by all households, firms, government agencies, and others in the economy. (Content Standard 18)
- Unemployment imposes costs on individuals and nations. Unexpected inflation imposes costs on many people and benefits some others because it arbitrarily redistributes purchasing power. Inflation can reduce the rate of growth of national living standards because individuals and organizations use resources to protect themselves against the uncertainty of future prices. (Content Standard 19)
Workshop Session

Getting Ready (5 minutes)

What implications does the following quotation have on what macroeconomic ideas should be taught to high school students?

“There is a compelling reason for learning about economics which I tell my students. Economics is a large part of life in this country. If you read the daily newspaper, a large proportion of the stories in the paper are about economics. They are about economic policy, and they are about the behavior of the economy. To live in this country and not understand all this is just to miss a good deal of the excitement of being there.” (Herbert Stein, Former Chair, President’s Council of Economic Advisors)

Appoint a leader to lead the group in a discussion of the following questions about the quotation:

- What specific economic concepts must students understand if they are to understand the macroeconomy?
- Which economic indicators must students understand if they want to know how the economy is performing?

Watching and Discussing the Video (110 minutes)

1. View Section One (macroeconomics), Section Two (GDP), and Section Three (unemployment). (28 minutes)
2. Form groups and answer the questions in Lesson 6.1, “All About GDP.” (23 minutes) Discuss the answers to the following questions:
   - What techniques did Anna Vanlandingham use to describe what is counted and what is not counted in GDP? Has anyone used other techniques?
   - Do worksheets like Lesson 6.1 or discussions like Anna’s work better? Do you need both?
   - True, false, or uncertain, and why? “A woman diminishes GDP by marrying her cook.”
   - Why is real GDP such an important economic indicator?
   - In what ways is real GDP a good measure of the economy?
   - In what ways does real GDP misrepresent economic activity?
3. In groups, discuss ways to teach about unemployment. (10 minutes) Discuss the answers to these questions:
   - How did Brett Hardin get across the different types of unemployment?
   - Brett used headlines to teach economic concepts. What techniques do you use to relate these economic concepts to what is going on in the economy today?
   - What difference does it make if students know the difference between structural and cyclical unemployment?
   - True, false, or uncertain, and why? “Employment and unemployment can rise together.”
4. View Section Four (inflation), Section Five (effects of inflation), and Section Six (measuring inflation). (29 minutes)
5. Form groups and answer the questions in Lesson 6.2, “Who Is Hurt and Who Is Helped by Inflation?” (20 minutes) Discuss the answers to the following questions:

- How did Brett engage the students in actively learning about who is helped and who is hurt by inflation?
- Inflation is a rise in the general price level—not the rise of a single price. How did Eliot Scher and Ted Hartsoe get this idea across to their students? Did the students get it?

Closure (5 minutes)

Citizens must understand how economic activity is measured and how government policies affect economic growth, unemployment, and inflation if they are to vote for candidates who propose alternative economic policies. Yet macroeconomic policy can seem rather abstract and remote to students. How can they be shown the effects of macroeconomic decisions on their own lives? Brainstorm and discuss ideas for showing how these macroeconomic policies affect students’ lives. Some possible answers are:

- Affect present and future job opportunities
- Affect future earning
- Affect the prices of things they buy
- Enable them to predict the economic consequences of proposed government policies and make informed choices among political candidates and public policy proposals
Lesson 6.1: All About GDP


Part A. Is This Counted as Part of GDP?
Which of the following are included and which are excluded in calculating this year’s GDP? Explain your decisions.

1. A monthly check received by an economics student who has been granted a government scholarship.
2. A farmer’s purchase of a new tractor.
3. A plumber’s purchase of a used truck.
5. The services of a mechanic in fixing the radiator on his car.
6. A Social Security check paid by the government to a retired store clerk.
7. An increase in business inventories.
8. The government’s purchase of a new submarine for the Navy.
9. A barber’s income from cutting hair.
10. Income received from the sale of Nike stock.

Part B. GDP: Is It Counted and Where?
For each of the following items, write one of the following in the space provided.

C if the item is counted as consumption.

I if the item is counted as investment.

G if the item is counted as government.

N if the item is not counted in GDP.

1. You spend $7.00 to attend a movie. _____
2. A family pays a contractor $100,000 for a house he built for them this year. _____
3. A family pays $75,000 for a house built three years ago. _____
4. An accountant pays a tailor $175 to sew a suit for her. _____
5. The government increases its defense expenditures by $1,000,000,000. _____
Lesson 6.1, cont’d.

6. The government makes a $90 Social Security payment to a retired person. _____

7. You buy General Motors stock for $1,000 in the stock market. _____

8. At the end of a year, a flour-milling firm finds that its inventories of grain and flour are $10,000 above the amounts of its inventories at the beginning of the year. _____

9. A homemaker works hard caring for her spouse and two children. _____

10. Ford Motor Company buys new auto-making robots. _____

11. You pay $300 a month to rent an apartment. _____

12. Apple Computer Company builds a new factory. _____

13. R.J. Reynolds Company buys control of Nabisco ______.

14. You buy a new Toyota that was made in Japan. _____

15. You pay tuition to attend college. _____

Part C. Why Are Things Counted or Not Counted in GDP?

1. We count only the final retail price of a new good or service in GDP. Why?

2. A purely financial transaction will not be counted in GDP. Why not?

3. When a homeowner does home improvement work, the value of the labor is not counted in GDP. Why not?
Suggested Solutions—Lesson 6.1: All About GDP

Part A. Is This Counted as Part of GDP?
1. No, transfer payment
2. Yes, investment
3. No, used good
4. No, transfer payment
5. No, not a market activity
6. No, transfer payment
7. Yes, investment
8. Yes, government expenditure
9. Yes, a consumer service
10. No, purely financial transaction

Part B. GDP: Is It Counted and Where?
1. C
2. I
3. N
4. C
5. G
6. N
7. N
8. I
9. N
10. I
11. C
12. I
13. N
14. N
15. C

Part C. Why Are Things Counted or Not Counted in GDP?
1. If everything were counted, there would be double counting.
2. It is not a part of the nation’s output or production of goods and services.
3. GDP counts only market transactions.
Lesson 6.2: Who Is Hurt and Who Is Helped by Inflation?


Describe groups that are hurt by inflation and groups that benefit from inflation. Circle:

H if the person or group is hurt by inflation.
G if the person or group gains from inflation.
U if it is uncertain if the person or group is affected by inflation or if the effects are unclear.

Then explain why you answered as you did.

1. Banks extend many fixed-rate loans.
   
   H G U Why?

2. A farmer buys machinery with a fixed-rate loan to be repaid over a 10-year period.
   
   H G U Why?

3. Your family buys a new home with an adjustable-rate mortgage.
   
   H G U Why?

4. Your savings from your summer job are in a savings account paying a fixed rate of interest.
   
   H G U Why?

5. A widow lives entirely on income derived from fixed-rate corporate bonds.
   
   H G U Why?

6. A retired couple lives entirely on income from a pension the woman receives from her former employer.
   
   H G U Why?

7. A retired man lives entirely on income from Social Security.
   
   H G U Why?

8. A retired bank official lives entirely on income from stock dividends.
   
   H G U Why?
9. The federal government has a $5,000,000,000 debt.  
   H G U Why?

10. A firm signs a contract to provide maintenance services at a fixed rate for the next five years.  
    H G U Why?

11. A state government receives revenue mainly from a progressive income tax.  
    H G U Why?

12. A local government receives revenue from fixed-rate license fees charged to businesses.  
    H G U Why?

    H G U Why?

14. A bank has loaned millions of dollars for home mortgages at a fixed rate of interest.  
    H G U Why?

15. Parents are putting savings for their child's college education in a bank savings account.  
    H G U Why?

16. What conclusions can you draw about who is helped and who is hurt by inflation?

17. If you were certain that the inflation rate would be 10% a year for the next 10 years, how might your behavior change?
Suggested Solutions—
Lesson 6.2: Who Is Hurt and Who Is Helped by Inflation?

1. **H.** The bank is paid back with inflated money, which buys less.
2. **G.** The farmer pays back the loan with cheaper money.
3. **U.** During inflation, nominal interest rates rise. If the real interest rate (the final interest rate after inflation is deducted) rises, the family will be hurt. If the real interest rate falls, the family will be helped.
4. **H.** Inflation makes the dollars worth less, and you cannot take advantage of higher nominal interest rates, which would rise with inflation. Even if you could switch accounts, the rise in rates should come after the increase in inflation.
5. **H.** For the same reasons as question 4. If interest rates rise, the widow will have to sell the bond for less than she paid for it or hold it to maturity.
6. **U.** If the couple does not have a cost-of-living allowance (COLA), they will be hurt. If they do have a COLA, they may not be hurt.
7. **U.** Social Security does have a COLA, but it is limited. A large increase in the rate of inflation would hurt him.
8. **H.** Stock dividends usually increase with inflation, while bond interest payments are fixed.
9. **G.** This debt will be paid back with cheaper money.
10. **H.** Costs will go up, but income will not.
11. **G.** Income increases during inflation, and this will increase marginal tax rates.
12. **H.** Tax revenues will not increase, but government costs will.
13. **G.** Particularly if there is no change in rent paid.
14. **H.** If the fixed rate of interest is not at or above the inflation rate, the bank will be hurt because borrowers will pay the loan back with cheaper money.
15. **H.** Bank savings accounts rarely keep ahead of inflation. If the interest rate is not above the inflation rate, they will be hurt. Stocks can be a better choice.
16. Debtors and owners of real assets such as real estate are helped. Lenders and savers are hurt.
17. You would use debt to purchase real assets, such as houses, land, buildings, gold, etc., particularly if you could borrow at interest rates that did not reflect the higher inflation.
Workshop 7
Monetary and Fiscal Policy

Description
The government uses monetary and fiscal policy to manage the economy. Monetary policy and fiscal policy are tools to increase or decrease aggregate demand and, to some extent, increase aggregate supply. Fiscal policy is conducted by the President and Congress and consists of changes in government taxes and spending. Monetary policy is conducted by the Federal Reserve Board and consists of increasing or decreasing the money supply through open-market operations, changes in the discount rate, and changes in reserve requirements. Changes in the money supply affect interest rates, and changes in interest rates affect investment, consumption, unemployment, inflation, and economic growth.

Ted Hartsoe discusses fiscal policy tools with his students at Choate Rosemary Hall in Wallingford, Connecticut. In the next segment, Greg Smith’s students at Hastings-on-Hudson High School in New York make posters to illustrate the tools the Federal Reserve uses to conduct monetary policy. Next, Eliot Scher’s students at White Plains High School in New York role-play as members of the Federal Open Market Committee to analyze the goals and tasks of monetary policy. Then Ted Hartsoe uses a simulation with a balance sheet and pennies to illustrate money creation. Finally, Eliot Scher’s students participate in their first “Fed Challenge” competition.
Key Concepts

• Aggregate demand is the sum of the consumer, investor, government, and foreign demand in the economy at various price levels.
• Aggregate supply is the sum of the goods and services that will be supplied at various price levels.
• Fiscal policy consists of changing government spending and tax revenues in order to promote full employment, price stability, and economic growth.
• Money is anything that is generally accepted as final payment for goods and services. Money serves as a medium of exchange, a standard of value, and a store of value.
• Monetary policy consists of changes in the supply of money and availability of credit initiated by the Federal Reserve in order to promote price stability, full employment, and economic growth.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

• Money makes it easier to trade, borrow, save, invest, and compare the value of goods and services. (Content Standard 11)
• Interest rates, adjusted for inflation, rise and fall to balance the amount saved with the amount borrowed, which affects the allocation of scarce resources between present and future uses. (Content Standard 12)
• A nation's overall levels of income, employment, and prices are determined by the interaction of spending and production decisions made by all households, firms, government agencies, and others in the economy. (Content Standard 18)
• Federal government budgetary policy and the Federal Reserve System's monetary policy influence the overall levels of employment, output, and prices. (Content Standard 20)
Getting Ready (20 minutes)

- Appoint a participant to make four signs on 8.5” x 11” sheets of paper. The signs should say, “Increase Aggregate Demand,” “Decrease Aggregate Demand,” “Increase Aggregate Supply,” and “Decrease Aggregate Supply.” Put the signs on the floor in different areas of the room. Make sure there is space between the signs.

- Have each participant choose an economic policy or an economic event from the list below. Each person will make a sign indicating his or her policy or event and hold it before the activity starts. Feel free to add or subtract policies and/or events in accordance with the number of participants. However policies or events are chosen, each participant should select one before making his or her sign and carrying it to the appropriate place on the floor.
  - Congress cuts taxes mainly for the poor.
  - Congress cuts the capital gains tax.
  - OPEC raises oil prices.
  - New technology increases productivity.
  - The Federal Reserve buys government securities.
  - The Federal Reserve sells government securities.
  - Government spending increases.
  - The Federal Reserve lowers the discount rate in order to lower other interest rates.
  - More people begin taking early retirement.
  - The money supply increases.
  - Education and training levels increase for most new workers.
  - A new invention makes solar energy the least expensive way to heat homes and fuel cars.
  - Consumers are pessimistic about the future.

- Each participant should stand by the sign on the floor that indicates his or her policy’s or event’s effect on aggregate demand or aggregate supply.

- Discuss what happened.
  - Did any participants go to the wrong sign? Why did they do this?
  - Did some participants have to split their personalities and go to two signs? What could account for this?
  - Can government control all the variables that affect aggregate demand and supply? Why or why not?

Watching and Discussing the Video (95 minutes)

1. View Section One (fiscal policy) and Section Two (monetary policy). (16 minutes)
2. The participants should form small groups and answer the questions in Lesson 7.1, “The Tools of Fiscal Policy.” (16 minutes)
3. In the same small groups, participants should discuss ways to help students understand expansionary and contractionary fiscal policy. (5 minutes)
   • How did Ted get the monetary and fiscal policy ideas across to his students?
   • What teaching strategies do you use to accomplish this goal?

4. View Section Three (open-market operations), Section Four (how money works), Section Five (Fed Challenge practice), and Section Six (Fed Challenge). (43 minutes)

5. In small groups, read Lesson 7.2, “Money, Interest, and Monetary Policy,” and discuss the following questions. (15 minutes)
   • How does the activity with popcorn seeds and kidney beans illustrate inflation?
   • How does the money-creation activity (Activity 2) compare to Ted’s activity on money creation? What activities do you use to illustrate money creation?
   • Greg Smith’s students use posters to illustrate the effects of monetary policy. What makes this activity effective? What activities do you use to show the effects of monetary policy?
   • Eliot Scher uses “The Fed Challenge” competition to teach monetary policy. What are the advantages and disadvantages of using a competition like this in a one-semester high school economics course?

Closure (5 minutes)

Is the following statement true, false, or uncertain. Why?
   “The President can fix the economy.”
Changes in federal taxes and federal government spending designed to affect the level of aggregate demand (and in some cases aggregate supply) in the economy are called fiscal policy.

Aggregate demand is the total amount of spending on goods and services in the economy during a stated period of time. Aggregate demand consists of consumer spending, government spending, and investment spending.

Aggregate supply consists of the total amount of goods and services available in the economy during a stated period of time.

During a recession, aggregate demand is usually too low to bring about full employment of resources. Government can increase aggregate demand by spending more, cutting taxes, or doing both. These actions often result in budget deficits because the government spends more than it collects in taxes. Increasing government spending without increasing taxes or decreasing taxes without decreasing government expenditures should increase aggregate demand. Such an expansionary fiscal policy should increase employment, inflation, or both.

If the level of aggregate demand is too high, government can reduce its spending, increase taxes, or do both. These actions should result in a larger budget surplus or a smaller budget deficit than existed before. Such a contractionary fiscal policy should lower the level of aggregate demand, and the economy will experience less employment of its resources, less inflation, or both.

**Part A.**

Decide whether each of the following fiscal policies of the federal government is expansionary or contractionary. Write expansionary or contractionary and explain the reasons for your choice.

1. The government cuts business and personal income taxes and increases its own spending. ______________________

2. The government increases the personal income tax, Social Security tax, and corporate income tax. Government spending stays the same. _______________________

3. Government spending goes up while taxes remain the same. ______________________

4. The government reduces the wages of its employees while raising taxes on consumers and business. Other government spending remains the same. ______________________

Part B.
Test your understanding of fiscal policy by completing the first four questions in the table “Effects of Fiscal Policy.” All your choices for each situation must be consistent, that is, you should choose either an expansionary or contractionary fiscal policy. Fill in the spaces as follows:

**Column A: Objective for Aggregate Demand**
Write *increase* if you wish to increase aggregate demand.
Write *decrease* if you wish to decrease aggregate demand.

**Column B: Action on Taxes**
Write *increase* if you wish to increase taxes.
Write *decrease* if you wish to decrease taxes.

**Column C: Action on Government Spending**
Write *increase* if you wish to increase government spending.
Write *decrease* if you wish to decrease government spending.

**Column D: Effect on Budget**
Write *toward deficit* if you wish to increase the deficit (or reduce the surplus).
Write *toward surplus* if you wish to reduce the deficit (or increase the surplus).

### Effects of Fiscal Policy

<table>
<thead>
<tr>
<th></th>
<th>(A) Objective for Aggregate Demand</th>
<th>(B) Action on Taxes</th>
<th>(C) Action on Government Spending</th>
<th>(D) Effect on Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The national unemployment rate rises to 12%.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Inflation is strong and its rate is now 14% per year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Surveys show consumers are losing confidence in the economy, retail sales are weak, and business inventories are increasing rapidly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Business sales and investment are expanding rapidly, and economists believe strong inflation lies ahead.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Inflation persists while unemployment stays high.</td>
<td></td>
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</tr>
</tbody>
</table>
Part A.


2. **Contractionary.** The tax increases reduce consumer and investment demand. Government demand remains the same.

3. **Expansionary.** Higher government spending without a corresponding rise in tax receipts increases total demand in the economy.

4. **Contractionary.** Lowering government employees’ wages decreases government demand. Higher taxes decrease consumer and investment demand.

Part B.

**Effects of Fiscal Policy**

<table>
<thead>
<tr>
<th>Objective for Aggregate Demand</th>
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<td><strong>(B)</strong></td>
<td><strong>(C)</strong></td>
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<td>Increase</td>
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<td>5. Inflation persists while unemployment stays high.</td>
<td>This question is designed to show that traditional fiscal policy doesn’t provide solutions to the problems presented by the simultaneous presence of inflation and excessive unemployment. Use this question to examine the principal alternatives to demand management economics, which are given in the discussion above.</td>
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This question is designed to show that traditional fiscal policy doesn’t provide solutions to the problems presented by the simultaneous presence of inflation and excessive unemployment. Use this question to examine the principal alternatives to demand management economics, which are given in the discussion above.
Lesson 7.2: Money, Interest, and Monetary Policy


Introduction
Growth of the money supply is related to inflation. This lesson examines how money supply growth rates can lead to inflation when they outpace the growth in output. To maintain price stability and steady rates of economic growth, the Federal Reserve System tries to control the supply of money. Changes in the money supply lead to changes in interest rates which, in turn, affect the availability of credit and national levels of spending and output.

Concepts
- Money supply
- Inflation
- Open market operations
- Reserve requirements
- Discount rate
- Interest rate

Content Standard
- Federal government budgetary policy and the Federal Reserve System’s monetary policy influence the overall levels of employment, output, and prices.

Benchmarks
In the long run, inflation results from increases in a nation’s money supply that exceed increases in its output of goods and services.

Monetary policies are decisions by the Federal Reserve System that lead to changes in the supply of money and the availability of credit. Changes in the money supply can influence overall levels of spending, employment, and prices in the economy by inducing changes in interest rates charged for credit and by affecting the levels of personal and business investment spending.

The major monetary policy tool that the Federal Reserve System uses is open market purchases or sales of government securities. Other policy tools used by the Federal Reserve System include increasing or decreasing the discount rate charged on loans it makes to commercial banks and raising or lowering reserve requirements for commercial banks.

Objectives
- Students describe how changes in the money supply can affect the average level of prices.
- Students explain how the Federal Reserve System uses the major tools of monetary policy to regulate the economy’s money supply.
- Students explain the chain of events that occur in the economy when the Federal Reserve System engages in a specific monetary policy.

Lesson Description
Students participate in two simulations. In the first, they discover the effects of excessive money creation on product prices. In the second simulation, they learn how the Federal Reserve System uses different tools of monetary policy to adjust the amount of money in the economy. Then they learn how monetary policies affect the economy as a whole.
Lesson 7.2, cont’d.

Time Required

Materials
- Popcorn seeds and kidney beans—enough to give each student 10 seeds and 5 beans
- Three identical bags of candy
- Activity 1: Money Matters Simulation Questions, one per student
- Activity 2: Money Creation, 10 copies cut in thirds, and 10 additional copies of the $10,000 bill
- A paper tent sign with the word “BANK” written on both sides
- Visual 1: Monetary Policy and the Demand for Loanable Funds

Procedures
1. Ask students how many of them would be better off with more money. (Most will raise their hands.) Tell them that may be true for each of them, but it may not be true for everyone. Explain that the “fallacy of composition” (what’s true for the individual is also true for the whole) is a common pitfall in economic thinking. Announce that you will conduct a simulation to determine if everyone is better off if everyone receives more money. You will hold three auctions for three identical bags of candy, one sold in each round.

2. Give each student five popcorn seeds, and explain that for this activity each seed is worth 10 cents. Calculate the size of the classroom money supply (50 cents x number of students) and write it on the chalkboard. Sell the first bag of candy to the highest bidder, collect the “money” from the winning bidder, and write the price paid (in a dollar equivalent) on the chalkboard. Don’t be concerned if some students pool their “money” during the bidding; this adds to the excitement of the auction.

3. Distribute the remaining popcorn seeds (5 per student), reminding students that each seed is worth 10 cents, including any they did not spend in the first auction. Write the size of the money supply on the board ($1 x the number of students, minus the amount paid by the winner of the first auction). Conduct the second auction. Give the second bag of candy to the highest bidder, collect the price from the winning bidder, and write the price on the board.

4. Expand the money supply again to include the popcorn seeds students still have and the kidney beans that you distribute now (5 per student). The kidney beans are valued at $1 each. Calculate the money supply and write the number on the board ($6 x the number of students, minus what was paid by the winner of the first two auctions). Auction the third bag of candy to the highest bidder, and write the price on the board. Note that the rapid increase in the classroom money supply, when the amount of goods available to be consumed in each period remained constant, drove up the price of candy. Explain that the same thing would have happened if there had been more than one kind of good auctioned in each round, as long as the total quantity of goods in each round remained fixed while the money supply increased rapidly.

5. Ask students to explain the fallacy of composition in thinking that everyone will be better off if everyone has more money, based on their experience with the simulation. (There was a larger money supply, but there was still the same amount of goods. The amount of money alone had no impact on the amount of goods available, only on the price of the goods.) Ask for a term that students might have heard to describe this situation. (Inflation)

6. Define inflation as an increase in the average price of goods and services in the economy. Explain that, during the second and third auctions, students witnessed the fundamental long-run source of inflation in an economy—the supply of money growing faster than the supply of goods and services available for purchase. This is often described as too much money chasing too few goods.
Lesson 7.2, cont’d.

7. Distribute a copy of Activity 1 to each student to reinforce the understanding of inflation developed in the auctions. Have students complete the worksheet independently, and then discuss students’ answers in class. (Answers are provided below.) Point out that the long-run growth in the production of goods and services in the U.S. economy averages 2% to 4% a year. A long-term growth in the money supply of about the same rate would have a neutral effect on prices, assuming people don’t change their spending and saving behavior for other reasons. (Over the long run, however, people do change their spending and saving behaviors as a result of institutional factors, such as being paid more or less frequently, and to some extent as a result of changes in other factors such as income levels and interest rates.)

Answers to Activity 1

a. What happened to the price of the item auctioned between the first and third auctions? (It increased.)

b. What happened to the amount of “money” in the classroom between the first and third auctions? (It increased.)

c. What gave the seeds and beans value? (They could be used to buy something. The money’s real value depended on the amount of goods it could buy.)

d. When the students had more money to spend, what happened in the successive auctions? (Prices increased.)

e. What do you think would have happened to the price if the number of items offered for sale in the third auction increased from one to 100? (Decrease in average price)

f. Under what conditions is increasing the supply of money inflationary? (When the increase in the money supply greatly exceeds the increase in the number of goods and services available)

g. Under what conditions is increasing the supply of money not inflationary? (When the increase in the money supply is not greater than the increase in the number of goods and services, or if people choose not to spend their larger money holdings)

8. Summarize that when the money supply increases, it is important that it grow at an appropriate rate—not too fast and not too slow. Explain that the students will participate in an activity to show how the Federal Reserve System can determine, at least to a large extent, how fast or how slowly the U.S. money supply grows. Note to teacher: Students can learn more about the Federal Reserve System at www.FederalReserveEducation.org.

9. Inform students that an independent agency of the federal government, the Federal Reserve System (the Fed), is responsible for regulating the U.S. money supply. In doing this, the Fed influences interest rates (the price of loanable funds) in the economy. To demonstrate how the Fed regulates the money supply, divide the class into thirds. Using materials prepared from Activity 2, give each student in the first group a $10,000 U.S. Treasury bond; each student in the second group $10,000 in currency; and each student in the third group $10,000 in a checking account.

10. Explain that the students with bonds have each lent money to the U.S. Treasury. The Treasury bond is an IOU from the government, acknowledging the debt and promising to repay the bondholder, with interest, at a certain time. The bond is not money, however, because it can’t be widely used to purchase goods and services from people or in stores. Students with $10,000 in a checking account or in currency have money that can be used to buy goods and services; only the forms in which they hold the money differ. Point out that students have probably seen people buy things with currency and checks, but not with bonds.

11. Ask all students with money (checking deposits or currency) to raise their hands. Count the number of hands and multiply by $10,000 to determine the initial amount of money in the classroom. Write this number on the chalkboard under the heading of “Money Supply.”
Lesson 7.2, cont’d.

12. Tell four students with bonds to assume that they want to buy something, so they must get money by selling their bonds. Tell four students with money (currency or checks) to assume that they now want to buy bonds in order to earn interest. Have the eight students exchange their bonds and money. Ask the class if there has been any change in the amount of money in the classroom. (No—different people hold money and bonds, but the total amounts have not changed. Demonstrate with another show of hands, counting those who hold currency and checks.)

13. Tell four more students with bonds that they have decided they want to get money by selling their bonds. Announce that you will act as the Federal Reserve System in the rest of the activity. The Fed has decided to buy these four bonds. Give each of the four students $10,000 in currency in exchange for the $10,000 bond. Explain that the Federal Reserve System buys bonds when it engages in an expansionary monetary policy. Explain the following:

a. What has happened now to the amount of money in the classroom? (It increased by $40,000. Demonstrate with another show of hands.)

b. Where did the money come from? (The Federal Reserve)

c. Where does the Federal Reserve get the money? (The Fed created the money out of thin air, in effect printing money, although in practice it simply pays with a check, not by issuing additional currency.)

d. When the Fed buys bonds, it engages in expansionary monetary policy. Why is it called “expansionary”? (The money supply increases, or expands.)

14. Reverse procedure 13; that is, have the Fed sell bonds to four students in exchange for money (currency or checks) from the students. Once again, ask all students with money to raise their hands. Count hands and multiply by $10,000 to show that when the Fed sells bonds, that reduces, or contracts, the money supply.

15. Tell students that the Fed buying and selling government bonds is called open market operations, and that this is the most important tool used by the Fed to regulate the money supply. Open market operations are used on a week-to-week basis to make both large and small adjustments to the nation’s money supply.

16. Ask all students with checking account money to raise their hands. Multiply the number of hands by $10,000, and write this number on the chalkboard under the heading “Bank Deposits.” Have a pile of currency equal to this amount with the sign marked “BANK” beside it. Tell the students that the bank has their money on deposit and would like to lend some of it.

17. Explain that the amount the bank can lend depends on the reserve requirements set for banks by the Federal Reserve. The reserve requirement is the amount of deposits that a bank must keep “on reserve.” These funds may not be lent. Point out that if the reserve requirements were 100%, none could be lent; if it were 25%, 75% could be lent. Announce that in this simulation, the Fed’s reserve requirement for banks is initially 50%. (The actual reserve requirement is much less than 50%.) Then lend half the bank’s checking account deposits to a student, by giving the student that much money in a checking account. Have the student sign an IOU for the amount of the loan. Explain that banks don’t keep every dollar deposited in the bank in the vault—they make loans to earn money for the bank and its depositors, charging interest on those loans. Because depositors don’t all show up at the bank at the same time trying to withdraw their money, banks can use most of their deposits to make loans, subject to the Fed’s reserve requirements and following sound banking practices, which are monitored by other state or federal banking agencies.

Ask the class the following questions:

a. How much money is in the classroom now? (Count all currency and checking account balances.)

b. By how much has the money supply increased? (By the amount of the loan)

c. What action caused the increase in the money supply? (The bank’s loan)

d. If the Federal Reserve cut the reserve requirement, what could the bank do? (Make more loans and expand the money supply even more)
Summarize by explaining that actions by the Federal Reserve that change the reserve requirement will influence the money supply. A decrease in the reserve requirement is an expansionary monetary policy. An increase in the reserve requirement is a contractionary monetary policy.

18. Announce that the bank made too many loans yesterday and is $500,000 short of meeting its reserve requirement. Explain that the Federal Reserve lends money to banks in these circumstances, so they can meet their reserve requirements, but it charges banks interest on these loans. The interest on these loans to banks from the Federal Reserve is known as the discount rate. Ask if the bank would borrow this money from the Federal Reserve if it had no better way to meet its reserve requirements? (Yes, although banks usually try to avoid such loans. But the higher the Federal Reserve sets the discount rate, the more it costs banks to borrow, and the greater their incentive to limit their lending to meet their reserve requirements. Therefore, raising the discount rate is a contractionary monetary policy; lowering the discount rate is an expansionary monetary policy.)

19. Tell students that although the reserve requirement and the discount rate are monetary policy tools the Federal Reserve sometimes uses, open market operations are the monetary policy tool most frequently used by the Fed. By buying and selling government securities (bonds), the Fed changes the nation's money supply. Changes in the money supply affect the market for loanable funds.

20. Display Visual 1. Explain that this graph shows the effect of a change in the money supply on the quantity of loanable funds demanded by individuals, businesses, and government agencies (local, state, or federal) that want to borrow money. The interest rate is the price of loanable funds. Those who lend money receive interest; those who borrow pay interest.

21. Remind students that when the Fed buys bonds (as in the classroom situation), the money supply increases. Discuss the following.

   a. When the supply of loanable funds increases, what happens to the interest rate? (It decreases.)
   b. Would people who want to buy cars, houses, and durable goods be more or less encouraged to borrow money? (More)
   c. Would businesses that want to build factories or purchase equipment be more or less encouraged to borrow money? (More)
   d. If people and businesses borrow more money at the lower interest rate, what will happen to the level of spending in the economy? (It will increase.)
   e. If people are spending more money, what will businesses want to do? (Produce more goods and services)
   f. If businesses begin to produce more goods and services, what is happening in the economy? (The real gross domestic product is increasing; that is, more output is produced and more people have jobs.)
   g. If the money supply increases faster than the rate at which output is growing, what will result? (Inflation)
   h. What happens if the Fed sells bonds? (The money supply decreases, interest rates rise, spending and production of goods and services decrease)

22. Discuss the following: When would the Fed want to conduct an expansionary monetary policy? (When the economy is facing a recession, or not growing as rapidly as the Fed believes it should) When would the Fed want to conduct a contractionary monetary policy? (When the economy is experiencing high rates of inflation, or growing more rapidly than the Fed believes it should)
Lesson 7.2, cont’d.

Closure
1. If the money supply is growing faster than the production of goods and services in our economy, what will be the result? (Inflation—too many dollars chasing too few goods)
2. What is inflation? (An increase in the average price of goods and services in the economy)
3. What is the primary role of the Federal Reserve System? (To regulate the money supply in order to keep inflation and unemployment low, and promote steady economic growth)
4. What are open market operations of the Fed? (Buying and selling bonds or other financial securities issued by the federal government)
5. If the Fed sells government bonds, what type of monetary policy is it pursuing? (Contractionary)
6. If the Fed buys government bonds, what type of monetary policy is it pursuing? (Expansionary)
7. What is the reserve requirement? (The percentage of deposits commercial banks must keep “on reserve” with the Fed, which are not available for loans)
8. Is a decrease in the reserve requirement contractionary or expansionary? (Expansionary)
9. What is the discount rate? (The interest rate paid by commercial banks if they borrow from the Fed)
10. Which monetary policy tool does the Fed use most often? (Open market operations)
11. Describe the chain of events in the economy when the Fed engages in an expansionary monetary policy using open market operations. (The Fed purchases government bonds, the money supply increases, interest rates fall, people and businesses borrow and spend more money, the production of goods and services [real GDP] increases)

Assessment
1. Tell students to assume the role of members of the Federal Reserve Board. They are charged with controlling the nation’s money supply to achieve full employment and stable prices in the economy. In groups of 12 students (corresponding to the size of the Fed’s Open Market Committee, the FOMC), have the students prepare a proposal recommending monetary policy actions designed to correct problems with spending, employment, and average prices caused by high interest rates. Specifically, different groups should assume one of the following scenarios for the economy or, if time permits, have each group consider all three scenarios:
   a. The national economy is sluggish as a result of tight (contractionary) monetary policies over the past two years.
   b. The economy is growing rapidly. Many economists believe there will be shortages of skilled labor and key industrial inputs, such as steel and electric power.
   c. The economy is experiencing 10% inflation per year.

   Have each group identify and list the most likely problems with spending, employment, and average prices under the different scenarios. What monetary policy does each group propose? How does each group expect the monetary policy it proposes to solve the problems the group identified with spending, employment, and average prices? Have the groups present their recommendations to the full class, compare their reasoning, and try to agree on the most appropriate set of monetary policies for each scenario.

2. Have students read the business section of any large daily newspaper and find articles on interest rates. Have students, individually or in small groups, speculate on the actions that the Fed might have taken to produce the effect on interest rates described in the article. Have some students present the results of their investigations to the rest of the class for discussion.
Lesson 7.2: Activity 1

Money Matters Simulation Questions

a. What happened to the price of the item auctioned between the first and third auctions?

b. What happened to the amount of “money” in the classroom between the first and third auctions?

c. What gave the seeds and beans value?

d. When the students had more money to spend, what happened in the successive auctions?

e. What do you think would have happened to the price if the number of items offered for sale in the third auction increased from one to 100?

f. Under what conditions is increasing the supply of money inflationary?

g. Under what conditions is increasing the supply of money not inflationary?
Lesson 7.2: Activity 2

Money Creation

$10,000
U.S. Treasury Bond

Face Value Will Be Paid on July 31, 2011
7 1/2% Interest Paid Quarterly

$10,000 THE UNITED STATES OF AMERICA $10,000

$10,000

$10,000 TEN THOUSAND DOLLARS

Your Name & Address
Pay to the Order of

YOU
Ten thousand and 00/100 dollars

Your Bank
For

653276014

Check # 0001
Date

Signature

223600122 0001
Monetary Policy and the Demand for Loanable Funds

![Graph showing the demand for loanable funds with interest rate on the y-axis and quantity of loanable funds on the x-axis. The graph includes points S1 and S2, and a downward sloping demand curve (D).]
Description

The key to improving a nation's standard of living is economic growth. Economic growth is a rise in the real per capita GDP of a country. Important factors in increasing economic growth include investment in new factories and machinery; development of new technologies; and investment in the health, education, and training of a nation's people.

A market economy creates incentives for economic growth. Profit is an incentive for entrepreneurs to take risks in developing new products and production methods. Patents and copyrights also provide incentives to innovate.

Jay Grenawalt, from George Washington High School in Denver, leads off the workshop session with an activity that dramatically illustrates the keys to economic growth. This segment is followed by practical lessons in entrepreneurship with Mark Melkonian, a teacher at the High School of Economics and Finance in New York. Ted Hartsoe, from Choate Rosemary Hall in Wallingford, Connecticut, relates entrepreneurship to the broader economy. Finally, from the High School of Economics and Finance in New York, Ghandi Moussa discusses with his students the incentives for innovation created by patents and copyrights.
Key Concepts

- Economic growth improves the standard of living of a nation’s people.
- The sources of economic growth include technological advancement, investment in capital equipment, investment in worker skills, and incentives to innovate and work productively.
- Profits provide incentives to businesses and individuals to increase wealth.
- Entrepreneurs take risks to improve products and to make resources more productive.
- Patents and copyrights are incentives that encourage future production.

Voluntary National Content Standards in Economics

The activities shown in this video illustrate the following standards:

- Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failures. (Content Standard 14)
- Investment in factories, machinery, new technology, and in the health, education, and training of people can raise future standards of living. (Content Standard 15)
Workshop Session

Getting Ready (20 minutes)

Form groups to work on Activity 1 in Lesson 8.1, “Rich Nation, Poor Nation.” Each group member should read Activity 1. Then the group should rank the nations from richest to poorest. Discuss the rankings among the groups. Read Activity 2. How successful were the groups in ranking the mystery nations? Discuss the factors that influenced your rankings. If you guessed wrong, what misled you?

Watching and Discussing the Video (90 minutes)

1. View Section One (what makes countries rich?). (15 minutes)
2. Discuss the “Mystery Nations” lesson that Jay Grenawalt used. (10 minutes)
   - How did Jay’s lesson differ from the lesson everyone did at the beginning of the workshop?
   - What improvements can you suggest to this lesson?
   - What misconceptions might your students have about the factors that make nations rich or poor? How would you deal with these in class? Look at Visual 1. Go around the room and have each participant describe how he or she might explain one of the factors so students can understand it. Are any factors that contribute to economic growth missing from the list?
3. View Section Two (entrepreneurs) and Section Three (business and finance). (25 minutes)
4. Form small groups and discuss the following questions: (15 minutes)
   - How would a good student business plan differ from a poor student business plan?
   - What are the advantages and disadvantages of using student reports, such as the business plan presentations in Mark Melkonian’s class, to teach economics?
   - What are the advantages and disadvantages of using case studies, such as the ones used in Ted Hartsoe’s class, to teach economics?
   - Ted examined entrepreneurship as an academic concept while Mark’s students developed specific plans. Which technique do you think would work better with your classes? Why?
   - Lesson 8.2, “Can I Become an Entrepreneur?” examines important traits that can make an entrepreneur successful. Can these traits be taught in a class, or are they traits that cannot be taught?
5. View Section Four (patents and copyrights). (15 minutes)
6. Discuss Section Four. (10 minutes)
   - What is the purpose of patents and copyrights in a market economy?
   - How does the fact that patents and copyrights are not honored in some countries hurt the economies of those countries?
   - True, false, or uncertain? Why?
   - “Napster provided some benefits to consumers that expensive CDs purchased in stores do without hurting the economy.”
   - What examples and case studies do you use in your classes to teach about patents and copyrights?
Closure (10 minutes)

Go around the room and discuss the differences and similarities between teaching techniques and characteristics of the students at each of the following:

- Jay Grenawalt's class at a public school in Denver (Section One).
- Mark Melkonian's class at a public school in New York (Section Two).
- Ted Hartsoe's class at a private school in Connecticut (Section Three).
- Ghandi Moussa's class at the same public school as Mark in New York (Section Four).
Lesson 8.1: Mystery Nations


Overview
The debate on globalization often centers on why some nations are rich and others remain in poverty. A nation's wealth affects the standard of living of its citizens. The key to economic prosperity is long-term economic growth.

In this lesson, students work in groups to examine data from several nations regarding size, natural resources, and population. Using these data, they try to identify the nations and predict whether each nation is rich or poor. Students rank the nations from richest to poorest. After the mystery nations' identities are revealed, students discuss economists' findings about factors that contribute most to long-term economic growth.

Materials
- Activity 1: Rich Nation/Poor Nation
- Activity 2: Mystery Nations Revealed
- Visual 1: Factors Contributing to Long-Term Economic Growth

Procedures
1. Explain to the class that in this lesson they will predict which nations of the world are wealthy and which are not, using data on each nation's size, natural resources, and population.
2. Divide the class into groups of three.
3. Give each group a copy of Activity 1. The students must identify the five nations and rank them from richest to poorest.
4. Have each group report its findings to the class. Discuss why they ranked the countries the way they did. Most will focus on the amount of natural resources.
5. Use Activity 2 to reveal the mystery nations.
6. Have the students answer the following questions, but do not comment on their answers until everyone has had a chance to answer.
   a. How can some nations with few natural resources, such as Japan and Singapore, be relatively wealthy?
   b. How can other nations with vast amounts of natural resources, such as Nigeria and Russia, be relatively poor?
7. Explain that some economists call this problem “the natural resources paradox.” Natural resources have certainly contributed to the economic success of some nations, including the United States, South Africa, and the oil-rich nations of the Middle East. But there are many examples of nations, such as Japan and Singapore, that have achieved great economic success with relatively few natural resources. And some nations with vast stocks of natural resources, such as Nigeria and Russia, remain relatively poor. In a class brainstorming session, have the students list other factors that might promote or discourage long-term economic growth and high standards of living.
8. Project Visual 1 and discuss the major points:

- **High investment levels in physical and human capital.** Investments in both physical capital (factories and machines) and human capital (the health, education, and training of workers) promote long-term economic growth. Both are also related to the widespread use of new technologies, which often require new machinery and the training of workers. Over the past two centuries, technological innovation has been the single most important determinant of economic growth, followed closely by investments in physical and human capital. Wealthier nations are usually in a better position to fund additional investments in human and physical capital, but less developed nations often present other opportunities for new investments. For example, lower levels of incomes mean that labor costs are lower in those nations, and it is often possible to transfer new technologies and production methods from wealthier nations to the poorer nations.

- **Strong incentives to save, invest, and increase productivity.** Successful economies have institutions that encourage saving and investment. Saving means not spending all of the nation's income for the current consumption of goods and services. Resources that are consumed today can't be used for investment, and vice versa. But successful investments lead to higher future levels of production, income, and consumption.

- **Competitive markets.** Competitive markets generate innovation and lower prices.

- **Low inflation.** A stable currency (low levels of inflation) enhances incentives by maintaining the value of financial assets, which encourages saving and investment. Preventing inflation also keeps people's efforts directed at work, saving, and investing, rather than searching for ways to protect their assets from the effects of inflation.

- **Political stability.** Political stability means a change in government won't cause confiscation of its citizens' property. That is an incentive for long-term investment.

- **Free trade.** The high-income nations of the world are heavily involved in world trade. In fact, the United States is both the wealthiest nation in the world and the world's largest trader. Canada, Germany, the United Kingdom, Japan, France, Singapore, and Hong Kong are also heavily engaged in international trade. Trading leads nations to specialize in the production and export of the goods and services they can produce at the lowest opportunity cost. Trading those exports for other products that can be produced at a lower cost in other nations reduces the total cost of production and allows higher levels of consumption worldwide. Free trade also results in increased competition, which keeps prices lower for consumers and helps ensure that businesses are responsive to consumer demand. Levels of trade have increased dramatically over the past 25 years. As much as one-third of U.S. economic growth during the 1990s was attributed to the international trade sector of the economy. Nevertheless, international trade is controversial because it adversely affects businesses that must compete with foreign producers.
You are secret agents assigned to find out if a country is rich or poor. From the information below, identify each country. Then rank the countries from richest to poorest. After you complete this activity, we will see how good a secret agent you are.

**Country A**  
- Size: Three-tenths the size of the United States  
- Population: 37,000,000 (small for a nation this size)  
- Natural Resources: Rich resources with fertile land and minerals such as lead, zinc, tin, copper, iron ore, oil, and uranium

**Country B**  
- Size: About the size of California  
- Population: 127,000,000  
- Natural Resources: Fish, no mineral resources

**Country C**  
- Size: Twice the size of California  
- Population: 127,000,000  
- Natural Resources: Vast resources including oil, tin, iron ore, coal, limestone, lead, zinc, and natural gas

**Country D**  
- Size: 1.8 times the size of the United States  
- Population: 145,000,000  
- Natural Resources: Vast resources with major deposits of oil, natural gas and coal; many strategic minerals; vast timber supplies

**Country E**  
- Size: 3.5 times larger than Washington, D.C.  
- Population: 4,000,000  
- Natural Resources: Fish; deepwater port

Identify the five countries and rank them in order, with the richest country being “1” and the poorest country “5.” Write the letter of the country used in the list above along with the name of the country.

<table>
<thead>
<tr>
<th>Richest</th>
<th>Country Letter</th>
<th>Country Name</th>
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<tbody>
<tr>
<td>1.</td>
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<td>5.</td>
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</table>

Poorest
Lesson 8.1: Activity 2

Mystery Nations Revealed

Country A
Name of country: Argentina
Population: 37,384,816
Per capita GDP: $12,900
Life expectancy: 75.26 years
Literacy rate: 96.2%
Infant mortality rate: 17.75/1,000

Country B
Name of country: Japan
Population: 126,771,662
Per capita GDP: $24,900
Life expectancy: 80.8 years
Literacy rate: 99%
Infant mortality rate: 3.88/1,000

Country C
Name of country: Nigeria
Population: 126,635,626
Per capita GDP: $950
Life expectancy: 51.07 years
Literacy rate: 57.1%
Infant mortality rate: 73.34/1,000

Country D
Name of country: Russia
Population: 145,470,197
Per capita GDP: $7,700
Life expectancy: 67.34 years
Literacy rate: 98%
Infant mortality rate: 20.05/1,000

Country E
Name of country: Singapore
Population: 4,300,419
Per capita GDP: $26,500
Life expectancy: 83.35 years
Literacy rate: 93.5%
Infant mortality rate: 3.62/1,000

Factors Contributing to Long-Term Economic Growth

• High investment levels in physical and human capital
• Strong incentives to save, invest, and increase productivity (including property rights)
• Competitive markets
• Low inflation
• Political stability
• Free trade
Lesson 8.2: Can I Become an Entrepreneur?


Overview
Entrepreneurs tend to exhibit some unique “packages” of characteristics that distinguish them from other people in the economy. Their principal motivations are the need for achievement and a strong desire for independence.

Although money is important—and no entrepreneur launches an initiative with the expectation of going broke—the earning of money tends to be a secondary consideration. Money tends to serve more as a barometer of success and accomplishment than as a goal in and of itself.

Generally, the following characteristics are common among entrepreneurs: independent, responsible, goal-oriented, self-confident, creative, and willing to take calculated, somewhat controllable risks. Deficiencies in any one of these characteristics tend to limit entrepreneurial activity.

The most essential characteristic of an entrepreneur is self-confidence, or what psychologists call “inner control.” This is simply a belief in oneself, a belief that “I can do it.” Entrepreneurs consider their ideas worthy of pursuit and themselves capable of seeing the venture through to a successful conclusion. Entrepreneurs are agents of change. If entrepreneurs do not believe in themselves, they are likely to abandon the effort when faced with resistance.

While research has revealed a number of characteristics and traits that are common to successful entrepreneurs, it has also shown that many of these skills and traits can be acquired. Entrepreneurs develop their abilities through education, training, experience, apprenticeships, and role-modeling, all of which assist them in their entrepreneurial ventures.

It is important for potential entrepreneurs to acquire personal insight into their own abilities, strengths, and weaknesses. Anyone exploring entrepreneurship should develop a personal profile to focus their abilities and to pursue initiatives compatible with their strengths rather than their weaknesses.

Materials
• Activity 1: Important Traits for the Entrepreneur
• Activity 2: Ratings of Traits by Entrepreneurs

Procedures
1. Distribute Activity 1. After discussing the various traits to assure that students understand their meaning, ask students to place an “X” in the appropriate box for each trait.

2. Tabulate the students’ ratings of the traits. Add the numbers assigned to each trait by each student. The higher the total figure for each trait, the more important its ranking.

3. Distribute Activity 2. Compare students’ ratings with the list given by entrepreneurs. Numbers in parentheses correspond with numbers on Activity 1. Discuss the three levels of traits. Be sure that each student is able to define these characteristics.

4. Have students discuss whether they have the characteristics necessary to be an entrepreneur.
### Important Traits for the Entrepreneur

Rate the traits below in terms of how important you think they are for entrepreneurial success.

A “1” would indicate that you believe the trait is *relatively unimportant.*

A “2” would indicate that you believe the trait is *somewhat important.*

A “3” would indicate that you believe the trait is *very important.*

<table>
<thead>
<tr>
<th>Not important</th>
<th>Somewhat important</th>
<th>Very important</th>
<th>Quality or trait</th>
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<tbody>
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<td>1</td>
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<td>3</td>
<td>1. A high level of energy</td>
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<td>2. Good physical health</td>
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<td>3. A strong need to achieve</td>
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<td>4. A willingness to take risks</td>
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<td>5. A desire to create</td>
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<td>6. A need to closely associate with others</td>
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<td>7. A strong desire for money</td>
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<td>8. A willingness to tolerate uncertainty</td>
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<td>9. An ability to get along with employees</td>
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<td>10. Being well organized</td>
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<td>11. Self-reliance</td>
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<td>12. A need for power</td>
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<td>13. Patience</td>
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<td>14. Competitiveness</td>
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<td>15. Desire and willingness to take the initiative</td>
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<td>16. Self-confidence</td>
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<td>17. Versatility (ability to do many things)</td>
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<td>18. Perseverance (sticking at something difficult)</td>
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<td>19. Innovativeness (willingness and ability to do something untried)</td>
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<td>20. Ability to lead effectively</td>
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Lesson 8.2: Activity 2

Ratings of Traits by Entrepreneurs

A. Most Important for Success
   Perseverance (18)
   Desire and willingness to take the initiative (15)
   Competitiveness (14)
   Self-reliance (11)
   A strong need to achieve (3)
   Self-confidence (16)
   Good physical health (2)

B. Important for Success
   A willingness to take risks (4)
   A high level of energy (1)
   The ability to get along with employees (9)
   Versatility (17)
   A desire to create (5)
   Innovativeness (19)

C. Least Important for Success
   Ability to lead effectively (20)
   A willingness to tolerate uncertainty (8)
   A strong desire for money (7)
   Patience (13)
   Being well organized (10)
   A need for power (12)
   A need to closely associate with others (6)

The numbers in parentheses correspond with the numerical listing shown in Activity 1.