

#9903

THE ECONOMICS CLASSROOM: WHY MARKETS WORK

ANNENBERG/CPB, 2002

Grade Level: Adult

60 Minutes

10 Instructional Graphics Included



CAPTIONED MEDIA PROGRAM RELATED RESOURCES

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Annenberg/CPB
Professional Development Workshop Guide

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

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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.

About the Workshop, cont'd.

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

by Mark C. Schug, from *The Great Economic Mysteries Book: A Guide to Teaching Economic Reasoning, Grades 9-12*, National Council on Economic Education, 2001.

Why Do People Trade?

by Gerald J. Lynch, Michael W. Watts, and Donald R. Wentworth, from *Focus: International Economics*, National Council on Economic Education, 1998.

Workshop 2. How Markets Work

A Classroom Market for Crude Oil

by Michael W. Watts, Sarapage McCorkle, Bonnie T. Meszaros, and Mark C. Schug, from *Focus: High School Economics*, National Council on Economic Education, 2001.

Shifts in Supply and Demand

by John S. Morton, from *Advanced Placement Economics: Microeconomics: Student Activities*, National Council on Economic Education, 1996. A new edition will be published in 2003.

Workshop 3. The Government's Hand

Property Rights Simulation

by John S. Morton.

Price Floors and Ceilings

by John S. Morton, from *Advanced Placement Economics: Microeconomics: Student Activities*, National Council on Economic Education, 1996.

Workshop 4. Learning, Earning, and Saving

How To Really Be a Millionaire

by John S. Morton and Mark C. Schug, from *Financial Fitness for Life: Bringing Home the Gold, Grades 9-12*, National Council on Economic Education, 2001.

The Chessboard of Financial Life

by John S. Morton and Mark C. Schug, from *Financial Fitness for Life: Bringing Home the Gold, Grades 9-12*, National Council on Economic Education, 2001.

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*, National Council on Economic Education, 1997.

The “Banana Wars” Lesson

by Elaine Schwartz.

Workshop 6. The Building Blocks of Macroeconomics

All About GDP

by John S. Morton, from *Advanced Placement Economics: Macroeconomics: Student Activities*, National Council on Economic Education, 1996.

Who Is Hurt and Who Is Helped by Inflation?

by John S. Morton, from *Advanced Placement Economics: Macroeconomics: Student Activities*, National Council on Economic Education, 1996.

Workshop 7. Monetary and Fiscal Policy

The Tools of Fiscal Policy

by John S. Morton, from *Advanced Placement Economics: Macroeconomics: Student Activities*, National Council on Economic Education, 1996.

Money, Interest, and Monetary Policy

by Michael W. Watts, Sarapage McCorkle, Bonnie T. Meszaros, and Mark C. Schug, from *Focus: High School Economics*, National Council on Economic Education, 2001.

Workshop 8. Growth and Entrepreneurship

Mystery Nations

by Jane Lopus, John S. Morton, Robert Reinke, Mark C. Schug, and Donald R. Wentworth, from *Capstone II*, National Council on Economic Education, to be published in 2003.

Can I Become an Entrepreneur?

by John E. Clow, Carolyn R. Holleran, Calvin A. Kent, Gary Rabbior, Francis W. Rushing, and Alan Stafford, from *Economics and Entrepreneurship*, National Council on Economic Education, 1993.

About the Workshop, cont'd.

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

Standards	Workshops							
	1	2	3	4	5	6	7	8
1. Scarcity	X							
2. Marginal costs/marginal benefits	X			X				
3. Allocation of goods and services		X						
4. Role of incentives	X							
5. Gains from trade	X				X			
6. Specialization and trade					X			
7. Markets—price and quantity determination		X						
8. Role of price in market system		X						
9. Benefits of competition		X						
10. Role of economic institutions			X					
11. Role of money							X	
12. Role of interest rates							X	
13. Role of resources in determining income				X				
14. Profit and the entrepreneur		X						X
15. Growth								X
16. Role of government			X					
17. Costs of government policies			X					
18. Circular flow-interdependence						X	X	
19. Unemployment and inflation						X		
20. Monetary and fiscal policy							X	

From *Voluntary National Content Standards in Economics*, National Council on Economic Education, 1997.

About the Contributors

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 McCreddie 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 economic 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*.

About the Contributors, cont'd.

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)

About the Contributors, cont'd.

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)

About the Contributors, cont'd.

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.

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 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)

Workshop Session

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

"A Classroom Market for Crude Oil" is from *Focus: High School Economics*, by Michael W. Watts, Sarapage McCorkle, Bonnie T. Meszaros, and Mark C. Schug, National Council on Economic Education, 2001.

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:

\$ per barrel	\$24	\$26	\$28	\$30	\$32	\$34	\$36	\$38	\$40	\$42	\$44
# of Buy Cards	0	4	4	4	4	4	3	3	2	2	2
# of Sell Cards	2	2	2	3	3	4	4	4	4	4	0

- 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.

Lesson 2.1, cont'd.

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.

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

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.

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.

Transaction Number	Price on Card (A)	Transaction Price (B)	Gain (C)	Loss (D)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				

Total Number of Transactions _____ Total Gains _____

Total Losses _____ Total Net **Gain** or **Loss** (circle one) _____

Lesson 2.1: Activity 4

Supply and Demand Schedules

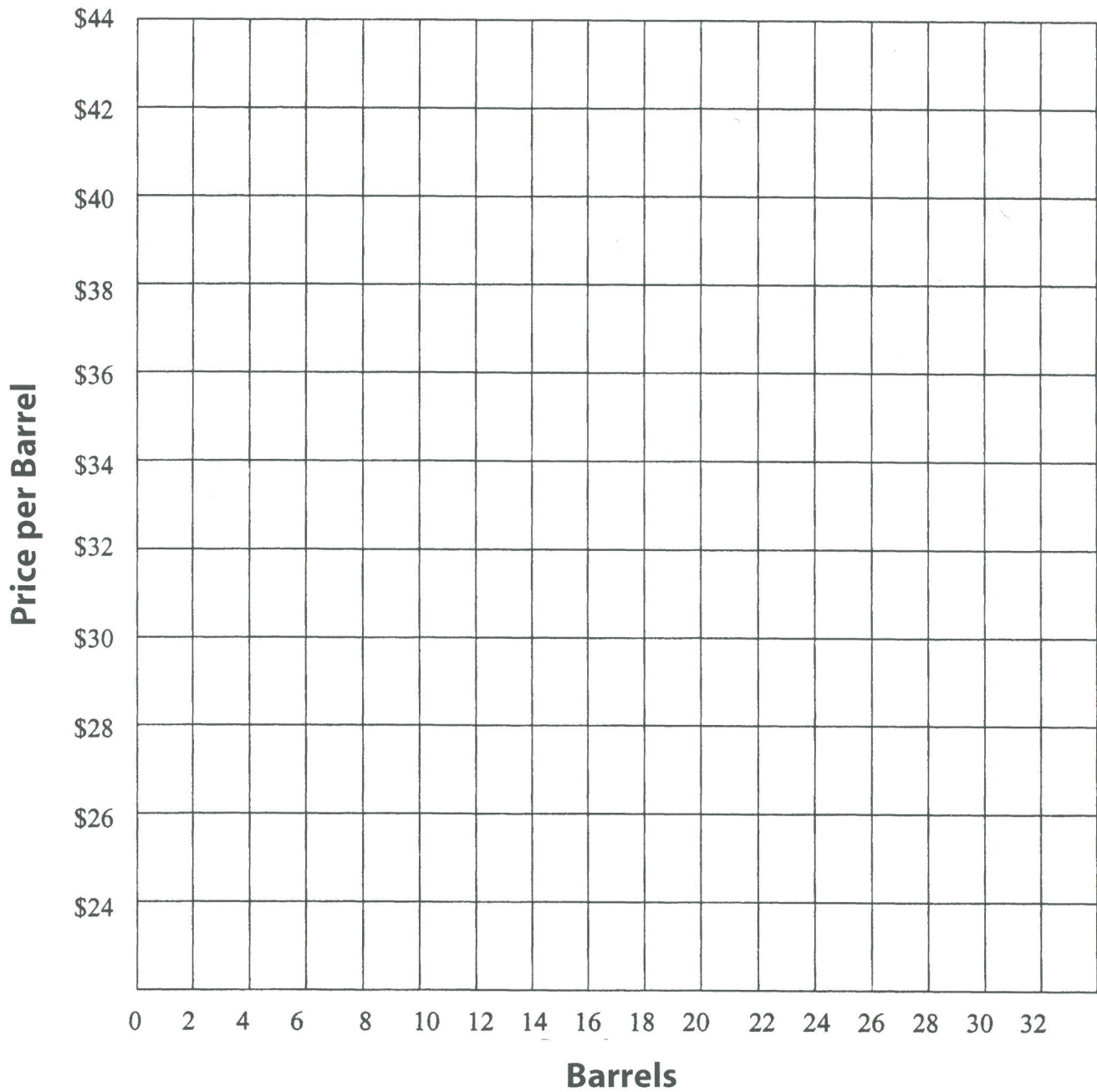
SUPPLY: In the following table, the supply schedule in the third column equals the cumulative number of barrels of crude oil available for sale at the price indicated. The cumulative total is found by adding up in the second column all the barrels that will be produced and sold at a given price *and* 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.)

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

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.)

Price	Number of Buyers Willing To Buy 1 Barrel of Crude Oil at the Price Indicated or at a Lower Price	Total Quantity Demanded
\$44	2 buyers	2
\$42	2 buyers	4
\$40	2 buyers	6
\$38	3 buyers	9
\$36	3 buyers	12
\$34	4 buyers	16
\$32	4 buyers	20
\$30	4 buyers	24
\$28	4 buyers	28
\$26	4 buyers	32

Crude Oil Supply and Demand



Lesson 2.1: Activity 6

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.

Price per pound	\$0.89	\$0.79	\$0.69	\$0.59	\$0.49
Quantity sold	1000	900	800	700	600

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.

Price per pound	\$0.89	\$0.79	\$0.69	\$0.59	\$0.49
Quantity sold	600	700	800	900	1000

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

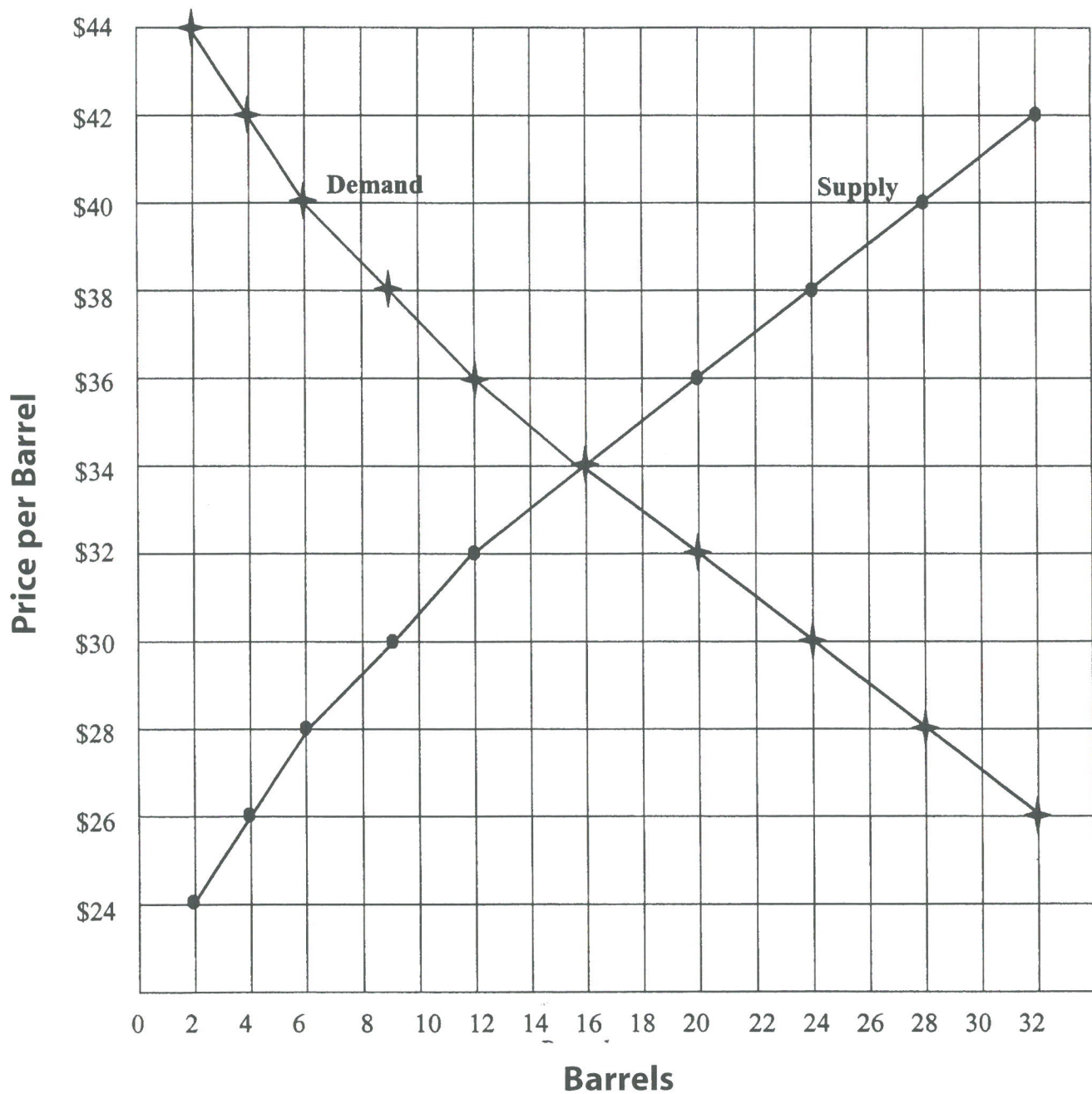
You are authorized to **BUY 1 barrel of crude oil**, paying as **little** as possible. If you pay more than \$_____, you lose money.

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

Price per Barrel	Round 1	Round 2	Round 3	Total of Rounds 2 and 3
\$24				
\$25				
\$26				
\$27				
\$28				
\$29				
\$30				
\$31				
\$32				
\$33				
\$34				
\$35				
\$36				
\$37				
\$38				
\$39				
\$40				
\$41				
\$42				
\$43				
\$44				

Graphing Supply, Demand, and Market Clearing Price



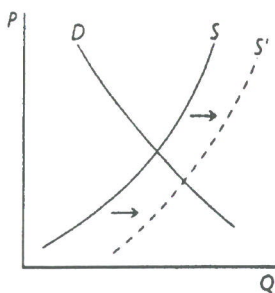
Lesson 2.2: Shifts in Supply and Demand

"Shifts in Supply and Demand" is from *Advanced Placement Economics: Microeconomics: Student Activities*, by John S. Morton, National Council on Economic Education, 1996.

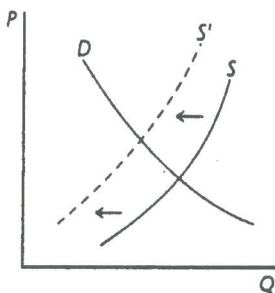
Part A.

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.

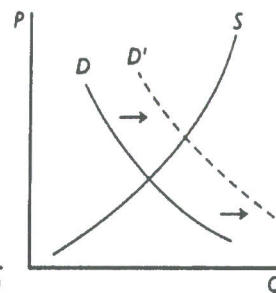
**Jelly Beans
Supply and Demand A**



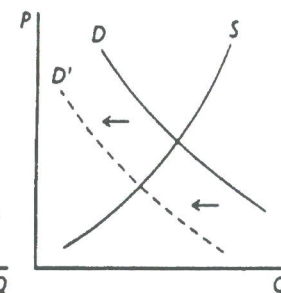
**Jelly Beans
Supply and Demand B**



**Jelly Beans
Supply and Demand C**



**Jelly Beans
Supply and Demand D**



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. _____

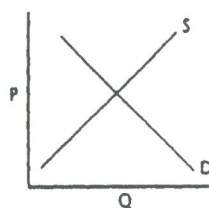
Part B.

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

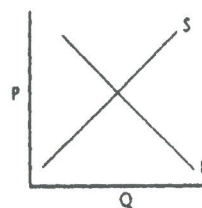
Quantity: Rises Stays the same Falls



2. Land devoted to apple orchards in the state of Washington

Price: Rises Stays the same Falls

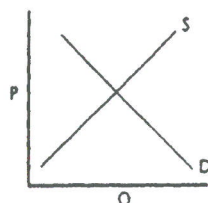
Quantity: Rises Stays the same Falls



Lesson 2.2, cont'd.

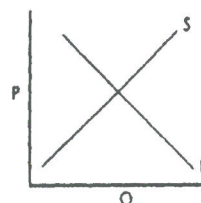
3. Apples grown in the state of Washington

Price: Rises Stays the same Falls
Quantity: Rises Stays the same Falls



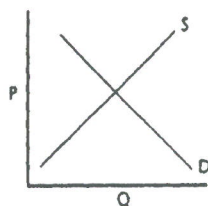
5. Apple pies

Price: Rises Stays the same Falls
Quantity: Rises Stays the same Falls



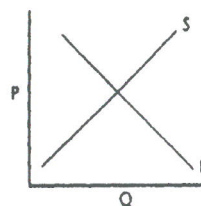
4. Pears

Price: Rises Stays the same Falls
Quantity: Rises Stays the same Falls



6. The wages of apple pickers in Connecticut

Price: Rises Stays the same Falls
Quantity: Rises Stays the same Falls

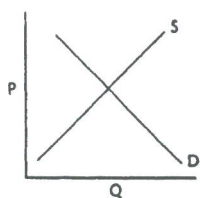


Part C.

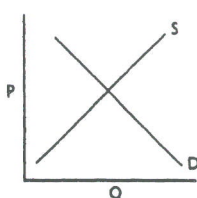
Read the following news story (based on an article in *Newsweek*, July 13, 1992) and use the graphs to show how the information in the story might affect various markets.

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%.

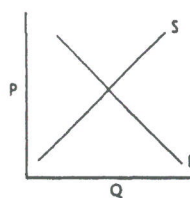
Hair dyes



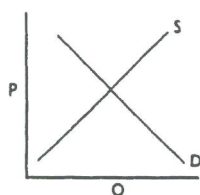
Wigs



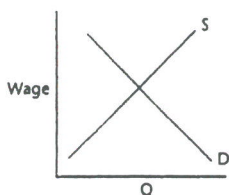
Plastic gloves



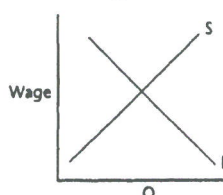
Beauticians



Wig makers

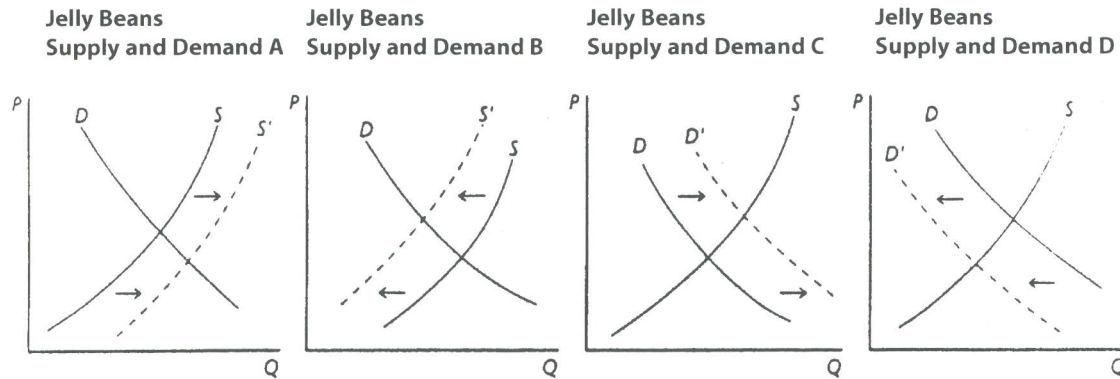


Plastic glove makers



Suggested Solutions— Lesson 2.2: Shifts in Supply and Demand

Part A.

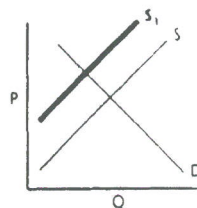


1. The price of sugar increases. **B**
2. The price of bubble gum, a close substitute for jelly beans, increases. **C**; could also be **B** if the student says suppliers could produce gum instead of jelly beans.
3. A machine is invented that makes jelly beans at a lower cost. **A**
4. The government 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.

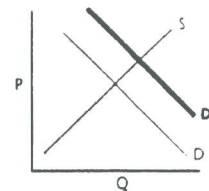
1. Apples in Boston

Price: **Rises**
Quantity: **Falls**



2. Land devoted to apple orchards in the state of Washington

Price: **Rises**
Quantity: **Rises**

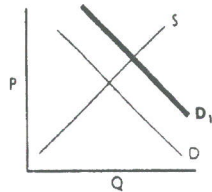


Suggested Solutions—Lesson 2.2, cont'd.

3. Apples grown in the state of Washington

Price: **Rises**

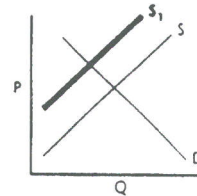
Quantity: **Rises**



5. Apple pies

Price: **Rises**

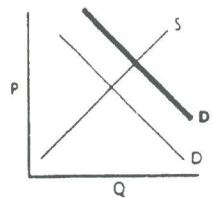
Quantity: **Falls**



4. Pears

Price: **Rises**

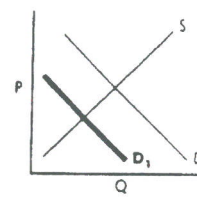
Quantity: **Rises**



6. The wages of apple pickers in Connecticut

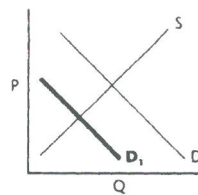
Price: **Falls**

Quantity: **Falls**

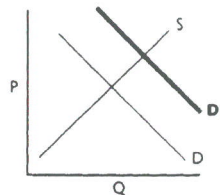


Part C.

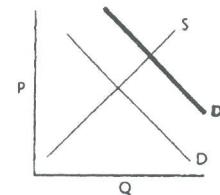
Hair dyes



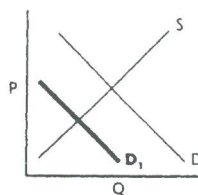
Wigs



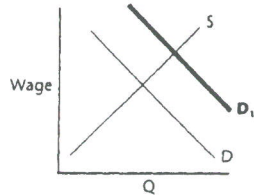
Plastic gloves



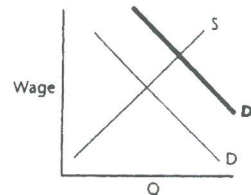
Beauticians



Wig makers



Plastic glove makers



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