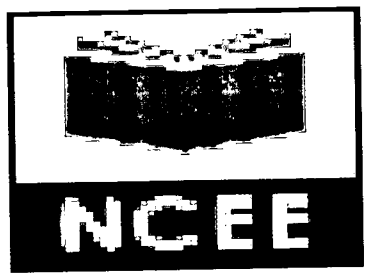
DOCUMENT RESUME

ED 480 846 SO 035 365

AUTHOR	McCorkle, Sarapage, Ed.; Suiter, Mary, Ed.
TITLE	Roosters to Robots.
INSTITUTION	National Council on Economic Education, New York, NY.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	2003-00-00
NOTE	62p.
CONTRACT	R304A970001-99
AVAILABLE FROM	National Council on Economic Education, 1140 Avenue of the Americas, New York, NY 10036. Tel: 800-338-1192 (Toll Free); Fax: 212-730-1793 ; e-mail: econed@ncee.net; Web site: http://ncee.net/.
PUB TYPE	Collected Works - General (020) -- Guides - Classroom - Teacher (052)
EDRS PRICE	EDRS Price MF01/PC03 Plus Postage.
DESCRIPTORS	Collaborative Writing; *Curriculum Development; *Economics; *Economics Education; Elementary Secondary Education; Instructional Materials; *Teacher Developed Materials
IDENTIFIERS	Content Area Teaching; *Economic Concepts; Educational Writing

ABSTRACT

This publication contains six lessons for elementary, secondary, and high school classrooms developed by writers from Belarus, Bulgaria, Latvia, Lithuania, Poland, Ukraine, and the United States. The authors of these lessons were participants in the Training of Writers program developed and conducted by the National Council on Economic Education, as part of the International Education Exchange Program (IEEP). Through intensive writing exercises, expert guidance, feedback from peers, and follow-up work by electronic mail, teachers improve writing skills in developing instructional materials. The publication consists of six lessons: (1) "A Rooster and a Bean Seed" (Julia Lelyuk); (2) "Folding Our Way to Productivity" (Daira Batanova; Alice Bottomley; John Brock; Natalia Shappo); (3) "Gross Domestic Pizza" (Irene Zaleskiene; Anatoly Venger; Rich MacDonald; Debbie Davis); (4) "What, How and For Whom to Produce?" (Krystyna Brzaklik); (5) "Clothes from Grain: A Miracle or a Problem?" (Joyce Gleason); and (6) "Centuries of Economic Growth: From Feathers to Robotics" (Angela Bullock; Sara Paul; Anzhela Yevgushchenko; Vesselka Votkova). Each lesson offers a lesson description; recommends age level; lists concepts; addresses content standards and benchmarks; cites educational objectives; states time required and materials needed; suggests a step-by-step procedure for classroom implementation; and addresses closure, assessment, and extension. Lessons also contain visuals. (BT)



National Council on Economic Education

Roosters to Robots

National Council on Economic Education
1140 Avenue of the Americas
New York, NY 10036
Phone: 212.730.7007 or 1-800-338-1192
Fax: 212.730.1793
Email: econed@ncee.net

2003

Forward

It is a great pleasure for me to introduce Roosters to Robots. This publication contains six lessons for elementary, middle, and high school classrooms developed by writers from Belarus, Bulgaria, Latvia, Lithuania, Poland, Ukraine, and the United States. The authors of these lessons were participants in the Training of Writers program developed and conducted by the National Council on Economic Education, as part of the International Education Exchange Program (IEEP). The Writers program, conducted annually since 1996, is designed to develop a pool of writers from both the U.S. and the emerging market democracies. Through intensive writing exercises, expert guidance, feedback from peers, and follow-up work by e-mail, teachers improve their skills in developing instructional materials.

The development of this publication was made possible through a grant to the National Council from the United States Department of Education, Office of Educational Research and Improvement under PR Grant #R304A970001-99. NCEE extends its appreciation to the Department of Education for its support of the IEEP.

NCEE is also grateful that the United States Congress had the foresight to realize the need for economic education in the emerging market economies and the vision to see how an international education exchange program such as the IEEP could benefit U.S. students and teachers.

Special thanks are extended to the editors, Sarapage McCorkle and Mary Suiter, Center for Entrepreneurship and Economic Education, University of Missouri-St. Louis, and Bonnie Meszaros, Center for Economic Education and Entrepreneurship, University of Delaware, for conceptualizing this publication and their perseverance and dedication in bringing it to press.

Patricia K. Elder
Vice President, EconomicsInternational and Government Relations

A Rooster and a Bean Seed

by Julia Lelyuk (Ukraine)

LESSON DESCRIPTION

In this lesson, students hear a folk tale and participate in a simulation that helps them recognize problems with barter and benefits of monetary exchange.

AGE LEVEL

7-10 years old

CONCEPTS

- barter
- exchange (trade)
- money

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.

Money makes it easier to trade, borrow, save, invest, and compare the value of goods and services.

BENCHMARKS

The oldest form of exchange is barter - the direct trading of goods and services between people.

Money makes trading easier by replacing barter with transactions involving currency, coins, or checks.

OBJECTIVES

- Students will explain that people trade goods and services when they expect to be better off.
- Students will define barter as the simplest form of exchange; that is, the direct exchange of goods and services.
- Students will explain that money is useful because it can be used to buy goods and services.

TIME REQUIRED

One to two class periods

MATERIALS

- copy of Activity 1
- copy of Activity 2 for each group of eight, cards cut along solid and dashed lines
- transparency of Visual 1
- small group prize (optional)
- copies of Activity 3 (cards cut apart) so that each student receives ONE GREEN

PROCEDURE

1. Read Activity 1, "A Rooster and a Bean Seed," aloud to the class. Discuss the following.

    A. Why did the hen trade? *[She had to trade to get the butter to grease the rooster's throat.]*

    B. Which trades did she make? As students answer, write the trades on the board. *[an egg to the blacksmith for a scythe, the scythe to the farmer for some grass, the grass to the cow for some milk, the milk to the farmer's wife for some butter]*

    C. Why wouldn't the farmer's wife trade butter for an egg? *[She didn't want an egg.]*

    D. What did the farmer's wife want? *[milk]*

    E. Why wouldn't the cow trade milk for an egg? *[She didn't want an egg.]*

    F. What did the cow want? *[fresh grass]*

    G. Why wouldn't the farmer trade grass for an egg? *[He didn't want an egg.]*

    H. Why would the farmer trade grass for a scythe? *[He wanted a scythe.]*

2. Explain that the hen was using barter. **Barter** is the direct exchange of goods and services without the use of money. Point out that the characters in the story were willing to barter with the hen only when she was able to offer something that they wanted. When two people have what one another wants, there is a **coincidence of wants**. A coincidence of wants is necessary for trade to occur. The hen had an egg and wanted milk. The cow had milk, but she didn't want an egg. They did not have a coincidence of wants.

3. Have students give examples of barter exchanges that they have made and explain why they traded. (Other people were willing to trade what they had for what the student had and vice versa. So, they were better off after the trade.)

4. Explain that students will participate in a barter activity. Divide the class into groups of eight. Give each group a set of cards from Activity 2.

5. Have each student take two cards with the same number. Explain that one card identifies a good that the student has and the other card indicates the good that the student wants. The "have" card can be traded within the group for any other "have" card available. Students should keep the bottom part of the card to remind them of the item they want.

6. Allow students to trade until everyone in every group has obtained the wanted item. On the chalkboard, record the amount of time each group spent trading. Check each group's results to make sure that trades were made correctly. (books for pocketknife; pocketknife for blanket; blanket for flashlight; flashlight for wrist watch; wrist watch for doll; doll for bag; bag for book) Note: The symbol on the final "have" card should be the same as the symbol on the original "want" card.

7. Discuss the following.

   A. How many trades (transactions) took place before each person in the group had what was wanted? *[seven]*

   B. Who began (initiated) the trades? *[Only one person could complete the trades - the person with the boots.]*

8. Point out that one person was involved in seven trades. Display Visual 1 and describe the successful trading process that occurred. Distribute a small prize to the group that was first to complete trading. (optional) Discuss the following.

   A. What type of trade occurred in our activity?

      [barter]

   B. What are the problems using barter?

      [A coincidence of wants is necessary for barter, so people may have to trade several times to get what they really want. Barter can take a lot of time.]

9. Tell students in each group to return the upper part of their cards to the person who originally had it. Visual 2 may be used as a guide to make sure that each person receives the appropriate card.

10. Explain that students will participate in another exchange activity. Distribute ONE GREEN to each student. Explain that the ONE GREEN represents money that can be used to exchange for goods and services. Each good has a price of ONE GREEN. Once again, in the trading period, the goal is to obtain the item they want. This time, they may use the ONE GREEN. Allow time for students to trade.

11. After the trading has been completed, record the time it took for all groups to trade. Check the trading cards to make sure that all trades occurred correctly. Give a small prize to the group that was first to complete trading. (optional) Discuss the following.

    A. How many trades occurred in the barter round?

       [seven]

    B. How many trades occurred in the round in which money was used?

       [eight]

    C. Which round took less time for trade to be completed? *[the round in which money was used]*

    D. Why did the groups spend more time in the barter round?

       [It was difficult to trade for what was wanted. Not everyone wanted what the trader had so the trader had to use a series of trades. There was a problem with coincidence of wants.]

    F. What was the advantage of using money (GREENs) for trade?

       [There wasn't a need for a long chain of transactions. Each person could use money to purchase the desired good.]

Closure

Review the main points of the lesson.

1. Can a person have all things that are wanted without trading with other people?

   [No one can produce all goods and services for his or her own consumption. That is why it is necessary to trade.]

2. "If people trade, one person gains and the other person loses from the trade." Why is this statement false?

[Voluntary trade benefits both people. If it didn't, they wouldn't trade.]

3. What is barter?

   [the direct exchange of goods and services; trade without money]

4. Why did people move from barter to trade using money?

   [Barter requires a coincidence of wants. If a coincidence of wants doesn't exist, then many trades may be necessary. Making a lot of trades is time consuming. The use of money makes trade easier and faster.]

Assesment

1. Have students write a short paragraph that describes how money serves as a better form of exchange than barter.

2. Have students write a short paragraph describing a trade that they have made. They should explain how each person was better off after the trade.

Extension

1. Have students write a barter story about a boy who has a soccer ball and wants a basketball. They must include at least three trades.

2. Have students interview an adult. They should ask if the adult has ever used barter and find out why he or she used barter. Discuss examples in class.

Activity 1 - A Rooster and a Bean Seed

Once upon a time, there were a hen and a rooster. The rooster was always in a hurry. The hen was always telling him, "Friend, don't be in such a hurry. Slow down!"

One day the rooster was pecking bean seeds. Because he was pecking so fast, one bean seed went down the wrong way and blocked his throat. The rooster could not breathe or speak, and he fell down on the ground as if he were dead.

The hen was frightened. She rushed to the farmer's wife and said, "Please, give me some butter to grease rooster's throat because he is choking on a bean seed! If you help me, I will bring you an egg." The farmer's wife replied, "I don't need your egg. You'd better go and ask for some milk from the cow. Then I will make some butter for you."

So, the hen hurried to the cow and begged, "Please, give me some milk quickly! Then the farmer's wife will make some butter, and I will grease rooster's throat. He is choking on a bean seed. If you help me, I will give you an egg in exchange." The cow shook her head and said, "I don't need eggs. Go to the farmer and let him bring me some fresh grass."

The hen ran to the farmer and said, "Dear sir, please give me some fresh grass for the cow! Then the cow will give some milk to your wife, and she will make some butter, and I will grease rooster's throat because he is choking on a bean seed. I will bring you an egg as a reward."

The farmer pointed his finger to the blacksmith's house. "I don't need an egg. Go to the blacksmith and bring me a scythe." So, the hen rushed to the blacksmith and said, "Please, give me a scythe for the farmer! The farmer will bring some fresh grass for the cow. The cow will give milk to the farmer's wife, and she will make some butter for me. I will grease the rooster's throat because he is choking on a bean seed. I will bring you an egg in return."

The blacksmith agreed. He gave a scythe for the farmer and received an egg in return. The farmer brought fresh grass to the cow. The cow gave milk for the farmer's wife. The farmer's wife used the milk to make butter. Finally, the hen got the butter and greased the rooster's throat. The rooster swallowed the bean seed and joyfully shouted, "Cock-a-doodle-doo!"

Activity 2 - Trading Cards

1 You have a pair of boots. ⫩	5 You have a wrist watch. ●
1 You want a book. ☻	5 You want a flashlight. √
2 You have a pocketknife. ▶	6 You have a doll. ♥
2 You want a pair of boots. ⫩	6 You want a wrist watch. ●
3 You have a bag. ■	7 You have a blanket. ▲
3 You want a doll. ♥	7 You want a pocketknife. ▶
4 You have a book. ☻	8 You have a flashlight. √
4 You want a bag. ■	8 You want a blanket. ▲

Visual 1

Order of Trades

(1) a pair of boots for a pocketknife

(2) a pocketknife for a blanket

(3) a blanket for a flashlight

(4) a flashlight for a wrist watch

(5) a wrist watch for a doll

(6) a doll for a bag

(7) a bag for a book

Activity 3

Green (money) Cards

ONE GREEN	ONE GREEN
ONE GREEN	ONE GREEN
ONE GREEN	ONE GREEN
ONE GREEN	ONE GREEN
ONE GREEN	ONE GREEN

Folding Our Way to Productivity

by Daira Baranova (Latvia), Alice Bottomley (USA), John Brock (USA), Natalia Shappo (Belarus)

LESSON DESCRIPTION

Students role-play workers producing origami cups. They participate in two production rounds, one without training and one with training. Students observe how productivity increases through training and, as a result, how income increases.

AGE LEVEL

7-10 years old

CONCEPTS

- productivity
- income

CONTENT STANDARDS

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.

Investment in factories, machinery, new technology, and the health, education, and training of people can raise future standards of living.

BENCHMARKS

People can earn income by exchanging their human resources (physical or mental work) for wages or salaries.

Workers can improve their productivity by improving their human capital.

OBJECTIVES

- Students will define income as the market value of the productive resources people sell.
- Students will define productivity as the amount of output produced per unit of input used.
- Students will explain how increased training can lead to greater productivity.

- Students will explain how higher productivity leads to greater income.

TIME REQUIRED

Two to three class periods

MATERIALS

- approximately 250 sheets of paper each 5.5 inches square (construction paper is too heavy)
- copies of Activities 2 and 3, one per student
- transparencies of Activities 2 and 3
- 16-18 copies of Activity 1, cut apart the bills
- 100 pieces of candy or other small items

PROCEDURE

Part 1

1. Tell students that you own a shop called "Folding Mania." You must hire workers to produce cups. *Note: Another product can be substituted in this production activity.* Explain that you will hire them to work in your shop.

2. Quickly demonstrate how to construct an origami cup. Don't give any verbal instructions. Instructions for the origami cup are at the end of this lesson.

3. Explain that Folding Mania workers will receive income in the form of wages.

4. Define income as the payment that people and households receive for providing their productive resources in the marketplace.

5. Display the play-money bills and inform students that you will pay workers $1 for each completed cup. Explain that you will check all final cups, making sure they pass quality control. If they are not of the same quality as those you made, they will be rejected. The worker who made any rejected good will not receive payment for that product.

6. Inform students that they may use their wages to purchase candy (or some other small item). Candy sells for a price of $10 per piece.

7. Distribute the square paper sheets, about ten sheets per student. Tell students that they will have five minutes to produce as many cups as possible. Remind them that to receive wages, their product must look the same as the model that you made. Set a timer for five minutes, and tell students to begin production.

8. Stop production at the end of five minutes. Quickly inspect all cups, indicating which pass quality control. Pay the workers accordingly.

9. Allow students to purchase pieces of candy at a price of $10 per item. Most likely, no one will have enough income to purchase any candy.

10. Display a transparency of Activity 2. Select one student and use his/her data to complete the chart for Period 1. Give a copy of Activity 2 to each student. Tell students to complete the chart for Period 1, recording the total quantity they produced, the number of accepted cups, the wage paid for each approved cup, and the total income they received.

11. Discuss the following.

    A. Why weren't very many cups produced? *(Without training, it is unlikely workers can produce a quality cup.)*

    B. Are you satisfied with the income you earned? *(probably not)*

    C. What could you do to increase your income? *(make more high-quality cups)*

    D. How can you produce more high-quality cups? *(receive more instruction on how to make the cup with step-by-step procedures)*

    E. How would practice help you earn more income? *(They could produce more of higher quality.)*

Part 2

1. Demonstrate how to make cups **in detail with verbal instructions**. *Optional: Give copies of the instructions to students.* During the training, make one fold at a time, then give students time to make the same fold with their sheet of paper. This helps the student better understand the construction procedure. Allow time for students in both groups to practice making one cup.

2. After practice, announce that students will have five minutes to produce as many cups as possible. Remind students that to receive wages, the cup must be the same quality as the model you made.

3. Set a timer for five minutes, and tell the workers to begin production.

4. After five minutes, stop production and quickly inspect all cups, indicating which pass quality control. Pay workers accordingly. Allow students to use their income to purchase pieces of candy.

5. Tell students to complete Period 2 on Activity 2, recording the number of accepted cups, the wage paid for each approved cup, and the total income received.

6. Explain that **productivity** refers to the number of units of output produced per worker for each five-minute period. Discuss the following.

   A. What was your productivity in Period 1? *(Accept several answers.)*

   B. What was your productivity in Period 2? *(Accept several answers.)*

   C. Why was there a change in productivity between Period 1 and Period 2? *(Students received training and practice time. They improved their skills or human capital.)*

   D. What happened to the amount of candy that you were able to buy in Periods 1 and 2? *(It increased.)* Why? *(The income increased because students increased their productivity.)*

7. Tell students to complete the sentence at the bottom of Activity 2. They should also construct a bar chart depicting their productivity before and after training.

CLOSURE

Review the main points of the lesson by asking the following questions.

1. What is productivity? *(the amount of output produced per unit of input)*

2. Name ways to increase productivity? *(training/education, practice)*

3. What is income? *(the market value of the productive resources that people sell)*

4. How does higher productivity lead to higher income? *(Workers are able to produce more of a product using the same amount of resources in the same amount of time. As a result, they are able to earn more income.)*

ASSESSMENT

1. Give a copy of Activity 3 to each student. Have them read the directions and complete the work.

2. Display a transparency of Activity 3. Review student answers.

Word Bank	
3	2
1	
4	

3. Have students write a paragraph explaining how developing writing, mathematics, calculator and computer skills helps them be more productive in school and will help them be more productive as adults.

4. How does training affect productivity and income? Explain your answer. *(Training improves productivity. Workers are able to produce more of a good using the same resources in the same amount of time. Increased productivity increases income.)*

EXTENSION

1. Have students interview their parents or other adults and ask them how many years of education they have completed and what job they hold. Have them also find out what special training that the adults received and how many years they worked at the job.

2. Conduct other production activities to help students recognize that a division of labor method of production and investment in capital resources will also increase productivity.

3. Have students complete a human capital inventory in which they identify skills, talents, and education that they might develop in order to increase the productive abilities.

Activity 1

Currency Sheet

$1	$1	$1
$1	$1	$1
$1	$1	$1
$1	$1	$1
$1	$1	$1
$1	$5	$5

Activity 2

Productivity and Income

Period	Number Produced	Number Accepted	Wage per Unit	Total Income
1				
2				

My productivity in Period 2 was (<, >, =) (circle one) than my productivity in Period 1 because _____.

Activity 3

Assessment

Match each of the words or phrases in the word bank with each of the statements. Write the number of the matching sentence next to the term or phrase in the space provided.

Word Bank

_____ income **_____ productivity**

_____ Training increases productivity.

_____ Increased productivity results in greater income.

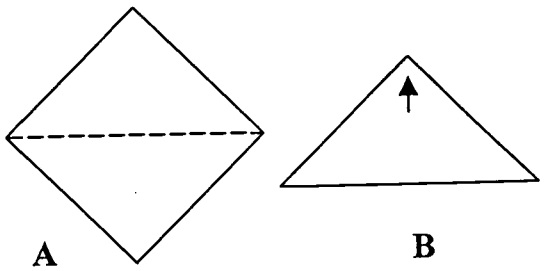
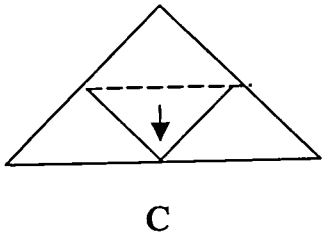
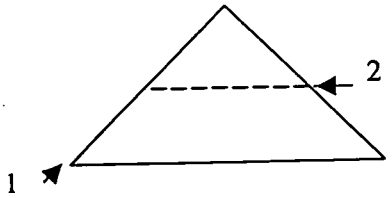
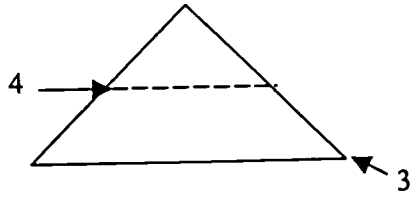
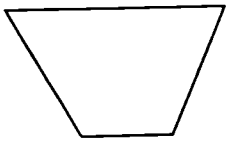
1. Mr. Jones, a teacher, attends a workshop and learns how to use a grade-book software program. With this software, he can average his class grade quickly.

2. Mrs. Wilson works in a factory and paints 20 picture frames in one hour.

3. Mr. Smith works in a factory and receives a $300 paycheck at the end of the week.

4. A sales clerk, Mrs. Nelson, sells twice as many pairs of shoes this week as last week. She receives a greater paycheck because of her increased sales.

Origami Cup Instructions

1. Place your square paper like Figure A. 2. Fold the paper in half so that the bottom point meets the top point. 3. Crease along the fold so your paper looks like Figure B.	
4. Using the top triangle, fold the top point down to the bottom fold as in Figure C. 5. Make a good crease in the fold, then open up to the top again to look like Figure B.	
6. Fold point 1 up to point 2, crease the fold, and open back up.	
7. Fold point 3 up to point 4 and crease the fold well. 8. Refold the other side again (point 1 to point 2)	
9. Fold the top point down as you did in step 4. 10. Turn the cup over and make a similar fold, folding the top point down. 11. Open up, and you have a drinking cup!	

Gross Domestic Pizza

by Irena Zaleskiene (Lithuania), Anatoly Venger (Ukraine),
Rich MacDonald and Debbie Davis (USA)

LESSON DESCRIPTION

This lesson explores how gross domestic product (GDP) is determined. The major components of GDP are described. Students create and compare GDP pie charts for the countries of Pepperonia and Anchovia.

AGE LEVEL

12-14 years old

CONCEPTS

- gross domestic product
- consumer goods
- investment goods
- government spending

CONTENT 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.

BENCHMARKS

Gross Domestic Product (GDP) is a basic measure of a nation's economic output and income. It is the total market value, measured in dollars, of all final goods and services produced in the economy in one year.

OBJECTIVES

- Students will define gross domestic product.
- Students will describe the difference between final and intermediate goods.
- Students will identify three major spending components used in measuring GDP.
- Students will give examples of the GDP components.
- Students will make comparisons of the components of GDP of different countries.

TIME REQUIRED

One class period

MATERIALS

- transparency of Visual 1
- one copy of Activities 1 and 2, cards cut apart
- red, blue, and green clay — enough to cover two paper circles, one 8" diameter and one 11½" diameter — about 60% red, 30% blue, and 10% green
- one 11 ½"-diameter paper circle (representing a pizza pan) marked into a pie graph with one 238° wedge labeled "C" and two 61° wedges with one labeled "I" and one labeled "G"
- one 8"-diameter paper circle with a 180° wedge labeled "C," a 144° wedge labeled "G" and a 36° wedge labeled "I"
- copy of Activity 3 for each student

PROCEDURE

1. Write the following definition of gross domestic product (GDP) on the board.

   Gross domestic product is the total market value of all final goods and services produced within the borders of a country in one year.

2. Explain that GDP is measured and calculated as an indicator of the economy's health. One way that it can be measured is by looking at the purchases of the goods and services produced.

3. Point out that final goods and services are newly produced goods that have reached their final consumer; that is, they will not be resold to anyone else.

4. Display Visual 1, explaining that the first list provides examples of goods and services that have reached their final buyer during the year. Ask the following questions.

   A. Who buys haircuts, bread, and dresses?
   (households, families, and individuals)

   B. Who buys cruise missiles?
   (government)

   C. Who buys a new factory or builds up an inventory of unsold products, such as automobiles?
   (businesses)

D. Using the second list, ask what the word "intermediate" means.
(in the middle)

E. Why might window glass used in producing automobiles be called an "intermediate" good?
(An automobile manufacturer uses the window glass for a car that will be sold to a final buyer, so it is not a final good. It is used to produce the car that will become a final good.)

F. Have students explain why the other products are intermediate goods.
(All products are used to produce something else that will be sold to a final buyer.)

5. Explain that three major components in calculating GDP are household purchases of consumer goods and services, government purchases of goods and services, and purchases of businesses of capital goods (also called investment). *(Note to teacher: Another component of GDP is exports minus imports. International trade is not included in this lesson.)* Write C, G, and I on the board. Define the three components as follows.

   - C = household purchases of consumer goods and services
   - G = government purchases of goods and services
   - I = purchases of businesses of capital goods, such as factories, tools, and new houses.

6. Have students categorize the final goods and services listed on Visual 1 according to the three components.
(Haircuts, bread, and dresses are C — consumer goods and services. A cruise missile is an example of G —government purchases of goods. A new factory and an increase in automobile inventories are examples of I — investment.)

7. Divide the class into two equal groups, one representing the country of Pepperonia, the other representing the country of Anchovia. Give a card from Activities 1 or 2 to each student in each country. Explain that "parms" is the currency of these fictitious countries.

8. Have students determine the GDP component (C, G, or I) for their cards. Check for accuracy.

   - *Pepperonia: C — compact discs, family minivan, bread, manicures, concerts, butter, doctor's services, candy bars, apples; I — new factory, increase in toy inventory; G = cruise missile, new roads, police protection*
   - *Anchovia: C — compact discs, bread, manicures, concerts, doctor's services, candy bars, butter; I — construction equipment, increase in toy inventory; G — new roads, cruise missile, police protection, education, national parks, state courts*

9. Have each team calculate GDP for the country and then calculate each component's percentage share of total GDP.

    - *Pepperonia: GDP = 150,000 parms where C = 100,000 parms (66%); G = 25,000 parms (17%); I = 25,000 parms (17%)*
    - *Anchovia: GDP = 75,000 parms where C = 37,500 parms (50%); G = 30,000 parms (40%); I = 7,500 parms (10%)*

10. Give each student a handful of clay of the appropriate color where red is C, blue is G, and green is I. Tell students to create a clay model of the good or service on their cards. When students have completed their creations, have each student stand and show his or her good/service and explain why it is an example of C, G, or I.

11. Have students assemble in their groups and combine their clay creations to create a pie chart. Hold up the two paper circles and explain that the circles represent GDP. Ask which circle should represent Pepperonia, and have students explain their answers.
    (Pepperonia will receive the 11 ½"-diameter paper circle because it has a higher GDP. The area of the circle represents GDP.)

    Note to teacher: This is convenient time to review Br2 as the area of a circle. The area of the 8"-diameter circle is 3.14159(4)2 = 3.14159(16) = 50.26 square inches. The area of the 11 ½" circle is 3.14159(5.5)2 = 3.14159(30.25) = 95 square inches which is about twice the size of the 8"-diameter circle. Pepperonia's GDP is twice as large as Anchovia's GDP — 150,000 parms and 75,000 parms, respectively.

12. Display the two pie charts. Have students compare them, and draw conclusions. (Pepperonia spends a larger portion (percentage) of its GDP on consumer goods and investment than Anchovia. Anchovia spends a larger percentage of its GDP on government purchases than Pepperonia.)

CLOSURE

Review the main points of the lesson.

1. What is GDP?
   (Gross domestic product is the total market value of all final goods and services produced within the borders of a country in one year.)

2. Name the three components of GDP learned in this lesson.
   (consumer goods and services, government purchases of goods and services, and investment goods)

3. What is the difference between a final and an intermediate good?
   (A final good is a good that has reached its final buyer. An intermediate good, such as steel, is used to produce another good, such as automobiles.)

4. Give examples of consumer goods and services.
   (clothes, food, furniture, jewelry, dental checkups, dry cleaning)

5. Give examples of government purchases of goods and services.
   (new roads and bridges, police and fire protection, national defense, education)

6. Give examples of investment goods.
   (factories, equipment, tools, new houses, changes in inventories)

ASSESSMENT

Assign Activity 3.

Answers:

1. *C = B, C, D, F, G, K, O*
   I = H, I, L, N
   G = A, E, J, M

2. *GDP = 121,000 rolas*

3. *C = 79,400 rolas (66%)*
   G = 25,300 rolas (21%)
   I = 16,300 rolas (13%)

EXTENSION

1. Explain that the complete definition of GDP includes exports and imports. Exports are added to GDP and imports are subtracted.

2. Have students search on the Internet to find the Gross Domestic Product for their country and others.

Visual 1

Final v. Intermediate Goods

Final Goods and Services

Manicures
Bread
Cruise missile
New factory
Dresses
Increase in automobile inventory

Intermediate Goods

Window glass in new automobiles
Lumber in a new house
Screws used in a cruise missile
Flour for making bread
Cloth for making dresses

Pepperonia Cards

Compact Discs 8,000 parms	Family Minivan 50,000 parms	Bread 5,000 parms
Factory 24,000 parms	Manicures 2,000 parms	Concerts 1,000 parms
Cruise Missile 10,000 parms	New Roads 10,000 parms	Increase in toy inventory 1,000 parms
Butter 1,000 parms	Books 5,000 parms	Visits to Doctor's Office 20,000 parms
Candy Bars 5,000 parms	Apples 3,000 parms	Police Protection 5,000 parms

Anchovia Cards

Compact Discs 2,500 parms	Bread 2,000 parms	Manicures 3,000 parms
Concerts 1,000 parms	Visit to Doctor's Office 17,000 parms	Candy Bars 10,000 parms
Butter 2,000 parms	New Roads 7,500 parms	Cruise Missile 5,000 parms
Police Protection 5,000 parms	Education 5,000 parms	National Parks 2,500 parms
State Courts 5,000 parms	Construction Equipment 7,000 parms	Increase in toy inventory 500 parms

Activity 3

Assessment

Listed below are all items consumed in the country of Consumerola and the total spending on each item. In the space next to each item, classify the item as consumer goods and services (C), government purchases of goods and services (G), or investment goods (I).

GDP ITEM	MARKET VALUE
_____ A. public library expansion	2,500 rolas
_____ B. canned fruits and vegetables 1	9,300 rolas
_____ C. frozen meats and fish	15,700 rolas
_____ D. dresses and suits	23,600 rolas
_____ E. park maintenance	8,200 rolas
_____ F. video rentals	5,200 rolas
_____ G. laundry services	4,100 rolas
_____ H. new fruit and vegetable warehouses	8,900 rolas
_____ I. new meat and fish freezing machines	3,200 rolas
_____ J. new roads and bridges and schools	12,100 rolas
_____ K. books	9,600 rolas
_____ L. construction equipment	2,400 rolas
_____ M. police and fire protection	2,500 rolas
_____ N. new housing	1,800 rolas
_____ O. furniture	1,900 rolas

Compute Consumerola's GDP for this year.

Calculate the GDP percentages for C, G, and I, and graph a GDP pie chart.

What, How and For Whom to Produce?

by Krystyna Brzaklik (Poland)

LESSON DESCRIPTION

Students produce badges as rewards for the best economists in the class. Through this production activity, they learn how command and market economies answer the basic economic questions: What to produce? How to produce? For whom to produce?

AGE LEVEL

10-12 years old

CONCEPTS

- Productive resources
- Command economy
- Market economy
- Basic economic questions

CONTENT STANDARDS

Students will understand that 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.

BENCHMARKS

There are essential differences between a market economy, in which allocations result from individuals making decisions as buyers and sellers, and a command economy, in which resources are allocated according to a central authority.

People in all economies must answer three basic questions: What goods and services will be produced? How will these goods and services be produced? Who will consume them?

OBJECTIVES

- Define an economic system as a way people organize the production, distribution, and consumption of goods and services.
- State and explain the three basic economic questions every economic system must answer: What to produce? How to produce? For whom to produce?

- Describe the basic characteristics of market and command economies.

TIME REQUIRED

One class period

MATERIALS

- copy of Activities 1, 2, and 3 for each group
- 2 sheets of white paper, 1 sheet of colored paper, pencil, magazine with colorful pictures, glue, 2 napkins, 2 paper plates, 5 safety pins, scissors, 10 straight pins, and a blue, black, and red marker for each group
- transparency of Visual 1

PROCEDURE

1. Tell students they will produce "good-economist badges" that will be distributed to students who meet certain criteria.

2. Divide the class into groups of 6 - 7 students. Explain that each group represents a country and its economy. Have each group name its country and choose a spokesperson for the country.

3. Distribute a copy of Activity 1 and the resources required for producing good-economist badges to each group: 2 paper plates, 1 sheet of white paper, 1 sheet of colored paper, 10 pins, a magazine with colorful pictures, and a black marker.

4. Tell students to read the instructions. Explain that the first production round will last 5 minutes. Begin the round.

5. At the end of 5 minutes, ask the spokesperson for each group to display the group's products. Collect all badges.

6. Have students raise their hand if they think they are good economists and should, therefore, receive a badge.

7. Explain that you have already decided how the badges will be distributed. You will keep half the badges because you are the best economist in the classroom, and you will distribute the rest of the badges to students in the class.

8. Begin distributing badges to students based on any criterion you choose. For example, give them to students with blue eyes, students sitting in the first row, students with dark hair, and so on.

9. Discuss the following.

A. Are you satisfied with the results of this activity? *(No.)* If not, why?
(The teacher made all of the decisions about what would be produced – badges, how the badges would be produced, and who would receive the badges. The teacher kept too many badges. Even though students produced the badges, some students didn't receive a badge.)

B. Were you able to design the badges? *(No.)* Why?
(The teacher decided what the badges should look like, and we had to follow that design.)

C. Who decided what resources would be used to produce badges?
(The teacher provided the resources and decided how they would be used.)

D. What problems occurred in the production process?
(Groups lacked some resources, such as scissors; they had excessive amounts of other resources; some resources, such as paper plates, weren't useful in producing badges; there was limited output because each group was instructed to only produce six badges.)

E. What economic incentives influenced the production teams?
(There were no incentives.)

F. Did the lack of economic incentives affect the quality of the final product?
(Some badges were poorly made.)

G. What decisions were the members of each group able to make about production and distribution of badges?
(how to divide the labor)

10. Define an economic system as the way people decide to organize production, distribution, and consumption. The decisions people must make about production, consumption, and distribution are: What to produce? How to produce? For whom to produce? Explain that there are different types of economic systems. Each type of economic system answers these three questions differently.

11. Display Visual 1. Ask students how these three questions were answered in the badge activity. As the students respond, record the information on Visual 1. *(In each case, the answer is that the teacher made the decision.)*

12. Explain that when a central authority makes the decisions about what, how, and for whom to produce, the economic system is called a planned or command system. In this production round, the teacher was a central authority making decisions about what, how, and for whom to produce, so the class had a command economy. Write the word "command" in column two next to "Type of Economic System."

13. Explain that in the next round, members of the groups will be able to make decisions about the production and distribution of badges.

14. Ask students what types of decisions they must make.
(What to produce – what the badges look like; How to produce – what resources to use, how many to produce; and For whom to produce – who will receive the badges after they have been produced.)

15. Remind the students that the three basic questions every economic system must answer are: What to produce? How to produce? For whom to produce?

16. Distribute a copy of Activity 2 to each group. Ask students in each group to discuss what they want the group's badges to look like. Explain that the group members should consider the available resources and decide which six resources they will use to produce badges.

17. Explain that groups will have 10 minutes to decide the following questions and complete Activity 2.

    - What to produce? *(What will the badges look like?)*
    - How to produce? *(Which resources to purchase? How to use the labor resources?)*
    - For whom to produce?

18. Distribute the resources that each group has chosen, and allow 10 minutes for students to work.

19. At the end of 10 minutes, display Visual 1 and ask the class who made the three decisions on the chart. Record their answers on Visual 1.
(In this case, the students should respond that the group or the students made the decisions.) Discuss the following.

    A. Why are the products produced in round 2 different from those produced in round 1?
    (In round 2, the producers had input about how the badges would look. The producers wanted to produce something that looked nice and that other people would want to wear so consumers would buy their badges.)

    B. Who decided which resources each group used to produce badges?
    (group members – producers)\

    C. How many badges were produced in each group?
    (More than in the first round.)

    D. Why were more produced?
    (No quota or limit was established.)

E. Who will receive the badges produced by your group?
(those who want the badges to wear and are willing to buy the badges)

F. What economic incentives influenced the production teams?
(hope of selling the badges to consumers, being able to make choices)

G. How did the presence of incentives influence production quality of the final product?
(The badges were high quality, unique, and attractive.)

20. Remind students that in a command economy distribution decisions are made by a central authority. In the class example, the teacher decided who received the badges. Explain that in a market economy, people *(producers and consumers)* make allocation decisions.

21. Explain that when the producers and consumers make decisions about what, how, and for whom to produce, the society has a market economy. In this round of production, the class had a market economy. Write the word "market" in column 2 next to "Type of Economic System."

22. Ask the students how the three basic economic questions were answered in this activity. *(producers and consumers)* As the students respond, record the information on Visual 1.

CLOSURE

Display Visual 1 and ask the following questions.

1. What is an economic system?
(the way in which production, consumption, and distribution of goods and services are organized)

2. What are the principal questions that every economic system must answer?
(what, how, and for whom to produce)

3. Who makes decisions concerning the types of goods and services produced, the way in which goods and services are produced, and who receives the goods and services produced in a command economy?
(central planning authority)

4. Who makes decisions concerning the types of goods and services produced, the way in which goods and services are produced, and who receives the goods and services produced in a market economy?
(producers and consumers)

ASSESSMENT

Distribute a copy of Activity 3 to each person. Have students read the instructions and decide if the statements are true or false.

The correct answers for the assessment are: 1) true 2) true 3) false 4) true 5) false 6) false 7) false 8) true 9) true

EXTENSION

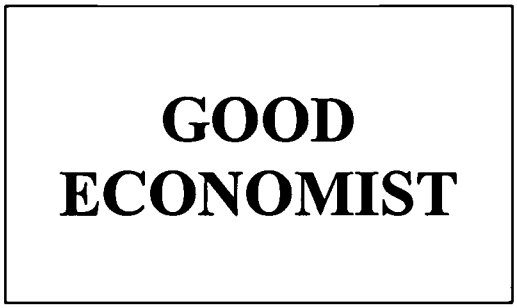
1. In history, students may conduct research to determine how other cultures or civilizations (Chinese, Egyptian, Ancient Greece) answered the basic economic questions.

2. In civic education, students may find newspaper articles with information about elements of command and market systems within their countries' economies. They can underline sentences that exemplify answers to the three basic questions.

Activity 1

Good Economist Badges

Your country produces badges with the inscription "Good Economist." These badges are made of white paper. Each badge is 5 cm. by 5 cm. The inscription is written with a black marker. All of the badges are identical because all the citizens in your country are considered equal. These badges are pinned to citizens clothing. The badges must look like the sample below.



The teacher, who is a representative of the central planning committee, has assigned you to a production group and has decided that your group should produce six badges. Your group will receive the following productive resources. The government owns these resources. They do not belong to you, and they may only be used to produce badges.

- ☐ 2 paper plates
- ☐ 1 black marker
- ☐ 1 sheet of white paper
- ☐ 1 sheet of colored paper
- ☐ 10 pins
- ☐ 1 magazine with colorful pictures

Activity 2
Trading Cards

Consumers in your country like to buy badges for people who are the best economists. They buy badges that they can afford and that they think are well made and attractive. Your firm is one of several that produce badges. Your were hired by this firm to produce badges because of your education and experience. The firm pays you a salary for your work. You must make production decisions for your firm. Resources that it may use to produce badges are listed below. However, the firm can't afford to purchase all the resources, you can only purchase six. Decide which six you want.

- 1 sheet of colored paper
- 1 blue marker
- 1 black marker
- 1 pencil
- 5 safety pins
- scissors
- two napkins
- 1 sheet of white paper
- 1 red marker
- glue
- 10 pins
- 2 paper plates
- a magazine with colorful pictures

Decide what your badges will look like, how many badges you will produce, and what resources you will use. Also, decide how these badges will be distributed to consumers. Please write your decisions below.

1. What badges will you produce? (Describe them.)

2. How will you produce these badges? (What resources will be used and how will you divide the labor?)

3. For whom are you producing? (How will these badges be distributed or allocated to consumers?)

Activity 3
Assessment

Read the following statements. Indicate whether each statement is true (T) or false (F).

1. _____ An economic system is the way in which people decide to organize the production, distribution, and consumption of goods and services.

2. _____ What, how, and for whom to produce are the basic economic questions that every society must answer.

3. _____ All societies answer the three basic questions in the same way.

4. _____ In a command economy, a central authority makes the decisions regarding what, how, and for whom to produce.

5. _____ The three basic economic questions are: What to produce? How to divide labor in production? And Who owns the productive resources?

6. _____ In a market economy, only the government decides what goods and services are produced.

7. _____ In a command economy, consumer purchasing decisions determine what will be produced.

8. _____ In a command economy, the government decides how the goods and services that are produced will be distributed.

9. _____ In a market economy, decisions regarding production and consumption result from the interaction of consumers and producers.

Visual 1
What? How? For Whom?

	ROUND 1	ROUND 2
TYPE OF ECONOMIC SYSTEM		
WHAT TO PRODUCE?		
HOW TO PRODUCE?		
FOR WHOM TO PRODUCE?		

Clothes from Grain: A Miracle or a Problem?

by Joyce Gleason (USA)

LESSON DESCRIPTION

Students read two fables about entrepreneurs who buy grain and turn the grain into clothing or resell the grain and use the proceeds to import clothing. Students use the information from the fables to determine why people trade and to analyze the costs and benefits of protectionist trade policies.

AGE LEVEL

14-19 years old

CONCEPTS

- voluntary exchange
- imports
- exports
- tariff
- quota

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.

BENCHMARKS

A nation pays for its imports with its exports.

When imports are restricted by public policies, consumers pay higher prices, and job opportunities and profits in exporting firms decrease.

OBJECTIVES

- Students will identify examples of voluntary exchange.
- Students will define exports, imports, protectionism, tariffs, and quotas.
- Students will explain the costs and benefits of trade among individuals or among organizations in different nations.

- Students will analyze who gains and who loses with restrictive or protectionist trade policies.

TIME REQUIRED

two class periods

MATERIALS

- copy of Activities 1, 2, 3, and 4 for each student
- Extension activity:
  - world map
  - tacks
  - two colors of yarn or string
  - two colors of paper cut into small slips (1" X 2") with a hole punched in each strip
  - Clothes from Grain: A Miracle or a Problem?

PROCEDURE

1. Explain that this lesson focuses on exchange and international trade. Ask what voluntary exchange means. Guide students to conclude that voluntary exchange is trade between people who agree to exchange money, goods, services, or resources they possess for money, goods, services, or resources someone else possesses.

2. Tell students that they will read two stories about voluntary exchange. Distribute a copy of Activities 1 and 2 to each student. Have students read the fables and answer the questions at the end.

3. After students have completed the assignment, discuss their answers to the questions as follows.

   A. Who gained by Mrs. Brown's enterprise?
   (Consumers gained because they were able to buy higher-quality clothing and shoes at lower prices. Farmers gained because there was increased demand for their grain. Mrs. Brown and her employees gained. Mrs. Brown earned more profit, and more employees earned wages and salaries.)

   B. Who was harmed by Mrs. Brown's enterprise?
   (Workers from apparel and shoe manufacturing businesses located elsewhere lost their jobs. Other manufactures of clothing and shoes had to shut down and/or move into other lines of manufacturing.)

   C. Why did consumers buy Mrs. Brown's clothes and shoes rather than those made by other manufacturers?

(Consumers decided that Mrs. Brown's clothes and shoes offered better quality at lower prices than other manufacturers.)

D. Who benefited from Mr. D's enterprise?
(Consumers gained because they were able to buy higher-quality clothing and shoes at lower prices. Farmers gained because there was increased demand for their grain. Mr. D and his employees gained. Mr. D earned more profit and more employees earned wages and salaries.)

E. Who lost from Mr. D's enterprise?
(Workers from apparel and shoe manufacturing businesses located elsewhere lost their jobs. Other clothing and shoe manufacturers had to shut down and/or move into other lines of manufacturing.)

F. Why did consumers buy Mr. D's clothes and shoes rather than those made by other manufacturers?
(Consumers decided that Mr. D's clothes and shoes offered better quality at lower prices than other manufacturers.)

G. Where did Mr. D get the foreign money to buy clothes produced in other countries?
(He sold grain to foreign producers. He used the revenue to buy foreign-produced clothing and shoes that he sold to retail stores in Americana.)

4. Explain that in the real world the international exchange process is more indirect.

   - Mr. D would exchange his foreign currency revenue for dollars.
   - Banks would then have foreign currency available to sell to importers for their dollars.
   - Importers would use the foreign currency to buy goods manufactured in other countries.

   Point out that if a country doesn't earn revenue from selling exports to foreign countries, then its importers must borrow foreign currency or exchange other assets for it to conduct business. In other words, a country pays for its imports with its exports.

5. Distribute a copy of Activity 3 to each student. Tell students to add notes to the vocabulary list as the lesson continues.

6. Explain that in both fables, voluntary exchange took place. Voluntary exchange occurs when people or organizations trade something of value with other people or organizations in order to benefit. People agree to trade because they expect to benefit.

7. Ask students for examples of times they engage in voluntary exchange. *(when they exchange money, goods, or services for other goods and services; when they work in exchange for wages)*

8. Explain that both sides in a trade expect to benefit, so the benefits that result from the trade can be counted as gains from trade. For example, farmers may sell their harvest and use the money they receive to buy clothing, food, entertainment, and so on. They benefit more from the items they purchase than they do from keeping the bushels of grain for themselves. By the same token, the grain buyer needs the grain more than the money he or she pays for the grain. These gains would not have been realized if trade had not occurred.

9. Explain that international trade occurs when people and organizations within nations trade with people and organizations in other nations. Discuss the following.

    A. What are imports?
    (goods or services that are produced in one country and sold in another country)

    B. Give some examples of goods that the United States imports.
    (cars, clothing, VCRs, camcorders, televisions, shoes)

    C. What are exports?
    (goods sold in one country but produced in another country)

    D. Give some examples of goods that the United States exports.
    (cars, computers, soy beans, refrigeration units)

10. Explain that governments often enact policies to prevent or to limit imports because domestic businesses are producing the same or very similar goods and services. These policies are designed to protect local workers and firms that compete with the imported products. The purpose of the policies is to raise the price of imports or to limit the availability of imports, so consumers will decide to buy more of the locally produced products. These types of policies are called protectionism.

11. Explain that the two main forms of protection are tariffs and quotas. A tariff is a tax on imports. The tax raises the price of the import. This means that consumers will buy less of the import and probably will buy more of the competing domestic (local) product. The price of the domestic good will rise because its demand increases causing the price to rise.

12. Explain that a quota is a limit placed on the amount of a product that may be imported. This reduces the supply of foreign products available. Local producers of the product will find that the demand for their product increases. As a result,

consumers will pay higher prices for the locally produced product. In addition, consumers will pay higher prices for the imported good because the supply has decreased.

13. Have students review the two fables and consider the following questions.

    A. Describe examples of voluntary exchange in the fable of Mrs. Brown.
    (Farmers sold grain to Mrs. Brown. Both Mrs. Brown and the farmers benefited from this exchange. Consumers bought clothes and shoes from Mrs. Brown. Both Mrs. Brown and the consumers benefited from this exchange. Workers traded their skills with Mrs. Brown for payment. Both the workers and Mrs. Brown benefited.)

    B. Describe examples of voluntary exchange in the fable of Mr. D.
    (The farmers sold grain to Mr. D. Both Mr. D and the farmers benefited. Mr. D sold grain to foreign buyers. Both Mr. D and the foreign buyers benefited. Mr. D bought clothing from foreign manufacturers. Both Mr. D. and the foreign manufacturers benefited. Consumers bought clothing from Mr. D. Both Mr. D. and the consumers benefited.)

    C. What were Americana's imports and exports?
    (Imports: clothing and shoes. Exports: grain)

    D. What policies might be adopted by the Americana Congress to appease those who are hurt by clothing imports?
    (The Americana Congress could impose a tariff or a quota on imported clothing.)

    E. What would the results of a tariff or quota be?
    (There would be less variety of products and higher consumer prices; some jobs in the local clothing industries may be protected; some jobs may be lost by importers; foreign producers would buy less Americana grain, so farmers' incomes would be reduced.)

    F. Why did everyone think Mrs. Brown was a genius when her results were the same as Mr. D's?
    (It appeared that Mrs. Brown had new technology that allowed her to produce the clothing and shoes. People were less upset about the technology than they were by the idea of buying goods from foreign countries. It seems easier to find fault with foreign competition than with improved technology. In the second fable the issue of displaced workers becomes political — an "us versus them " issue.)

    G. Suppose an undercover agent discovered that Mrs. Brown was doing the same thing as Mr. D¾ exporting grain from her warehouse in the dark of night and unloading shipments of imported clothing at the other end of her

warehouse. Is there really any difference between the situation when everyone believed the clothing came from grain through a miracle technology than having the imported clothing purchased with the proceeds from the sale of grain?
(No, there really isn't a difference. In both cases, consumers were better off, and some workers were displaced. The only difference is that in one case it appeared that workers were displaced by technology. In the other case, workers were displaced by foreign competition.)

H. Why did farmers want to sell to either Mrs. Brown or Mr. D?
(They valued the payment they received in exchange for the grain more than they valued the grain.)

I. Why did consumers want to buy clothing from Mrs. Brown or Mr. D instead of clothing made in Americana?
(Consumers felt that Mrs. Brown's and Mr. D's clothing was as good or better than Americana clothing and the prices were lower.)

CLOSURE

Review the main points of the lesson.

1. What is voluntary exchange?
(when people or businesses agree to trade goods, services, resources or money for other goods, services, or resources)

2. Why do businesses and individuals trade?
(They trade because they expect to benefit. They benefit because they give up something they value less than the item for which they trade.)

3. Give an example of a voluntary exchange you made and identify how you and the other participant gained from this trade.
(Answers will vary but might include something such as: I used my allowance to buy a CD at the store. I gained from the trade because listening to the CD brings me a lot of enjoyment. The store gained revenue and, most likely, profits from the exchange.)

4. Who gains from international trade?
(Those who gain are the ones who voluntarily exchange goods, services, resources, or money. For example, if you buy a shirt made in Korea from a local department store, you gain because you have a nice piece of clothing to wear. The department store gains in revenue and profit; the Korean manufacturer gains revenue and profit.)

5. Who might be hurt from international trade?
(producers and workers in industries that compete with imported goods)

6. If people bought fewer imported goods, what might happen?
   (Foreigners might not earn the funds to buy our exports.)

7. Describe the benefits and costs of trade.
   (Trade hurts some workers and businesses, but other workers and businesses are helped. Consumers are helped by the increased competition that brings lower prices and more variety.)

8. What is meant by protectionism?
   (Protectionism refers to policies, such as tariffs or quotas on imported products, that "protect" local producers and workers of these products. The protection occurs because tariffs and quotas make imports more expensive which makes it easier for local producers to compete.)

9. What is a tariff?
   (a tax on an imported good)

10. What is a quota?
    (a limit on the amount of a foreign product that can be imported.)

11. What is the effect of protectionism?
    (The immediate effect is to raise the price of the imported item. This reduces competition for locally produced items, and, therefore, may protect some local jobs. At the same time, consumers are hurt because the price of the imported product will rise. Exporters will eventually be hurt because foreigners won't earn as much revenue from selling imports to the U. S., which would pay for U. S. exports.)

12. Who gains and who loses from free trade?
    (Consumers gain from lower prices and more variety. Export industries gain as foreigners earn dollar revenue from selling their products to us and can import more U. S. products. Some workers and businesses may lose revenue and/or jobs as a result of the increased competition, but some will gain.)

ASSESSMENT

1. Distribute a copy of Activity 4 to each student. Have the students complete the assignment for homework. Sample answers:

    1. *buying lunch, exchanging books with someone in class, working at a part-time job to earn income, spending money on clothes*

    2. *Examples of imports would be anything made in another country that is purchased in the students' country. Examples of exports would be anything that originates in the students' country and is sold in another country. Imports and exports can be goods, services, or resources.*

3. *Exchange requires that people give up something to receive something in return. The same principle applies to international trade. To receive imported goods or services, people must provide something of value in exchange. Either they must provide money to the import producer that they earned by selling goods in the importer's country or they must exchange actual goods or services that the import producer wants before the imports will be sent. (The latter exchange is called barter.)*

4. *A tariff protects local manufacturers by raising the price of the import. Higher-priced imports allow the local manufacturer to compete more successfully because local prices are no longer as high relative to the prices of imported goods. This may shift demand to the local product and away from the imports.*

5. *An import quota has much the same effect as a tariff. By limiting the number of imports allowed into a country, the price of imports should rise (because the supply has decreased). This makes demand for local goods rise because their prices are not as high relative to imports.*

6. *Those who gain from international trade are consumers who benefit from lower prices, better selection, and possibly better quality that comes from increased competition. Producers of exports also gain as the import producers earn revenue that may be spent on exports from the home country. Businesses that compete with imported goods and workers in these businesses would be hurt.*

7. *Consumers are hurt by protectionist policies because they pay higher prices, have less selection, and probably get lower quality. Businesses that compete with imported goods and workers in those businesses benefit from protectionist policies.*

2. Have students develop their own trade fable.

EXTENSION

1. Have students check the labels on their clothes. As a class, list the countries in which each item was manufactured. Post a world map and have students find these countries on the map and mark them with a tack. Link each tack with a string or piece of yarn attaching a small piece of paper that lists the items. Tell students to find out what their country exports to the various countries they have marked. Use another color yarn or string to make a second connection between the students' country and the other countries. On these pieces of string attach a small piece of paper listing the product their country exports.

2. Have students find the major exports and imports for various countries. Use statistical yearbooks, encyclopedias, or Internet sources such as the CIA

Handbook of International Economic Statistics or The World Factbook at http://www.odci.gov/cia/publications/pubs.html.

Activity 1
Mrs. Brown's Amazing Technicolor Clothes

Mrs. Brown is an entrepreneur who became a hero in Americana by developing a mysterious technology for quickly transforming grain into a wide variety of colorful, stylish, and inexpensive apparel. This included all types of clothing and shoes. Mrs. Brown's clothing sales soon encompassed more than one-third of the entire demand for clothes in Americana.

Mrs. Brown's firm bought grain from Americana farmers who delivered truckloads to one end of her enormous manufacturing plant at a major seaport, Oceanattle. Clothing soon emerged from the other end of the enclosed plant. Although some workers in the apparel and shoe-manufacturing industry elsewhere lost their jobs to this new mystery technology, there were few complaints because Mrs. Brown's clothes were high quality and low-priced. Also, farmers experienced increased demand as a result of Mrs. Brown's grain purchases. Less successful clothing manufacturers eventually shifted into other lines of manufacturing, and their workers found jobs in other industries.

Discussion Questions

1. Who gained and who was hurt by Mrs. Brown's enterprise?

2. Why did consumers buy Mrs. Brown's clothes rather than those made by the now-failing manufacturers?

Activity 2
Mr. D's Problem Venture

Mr. D, like Mrs. Brown, is an Americana entrepreneur who buys grain from Americana's farmers who ship it to his warehouse in Oceanattle. Like Mrs. Brown, he buys the grain, but then resells it in markets in Asia and Eastern Europe. With the proceeds he earns from the grain sales, he buys a wide variety of colorful, stylish clothes and shoes that he imports to Americana and sells to retail stores. These are high-quality, low-priced goods that store customers view as great bargains. As a matter of fact, Americana consumers are so satisfied with Mr. D's clothing that he has captured nearly one-third of Americana's clothing and shoe demand.

Americana clothing manufacturers have been driven out of business, and their workers have lost their jobs. These people are very angry to lose jobs to foreign competition. Manufacturers' organizations and labor unions have demanded that the Americana Congress protect them by placing tariffs on imported shoes and clothing or establishing quotas for imported shoes and clothing. In their lobbying efforts, these organizations describe a "giant sucking sound" representing jobs being swallowed by clothing enterprises abroad. Mr. D is one of the most unpopular men in Americana.

Discussion Questions

1. Who gained and who was hurt by Mr. D's enterprise?

2. Why did consumers buy Mr. D's products rather than those made in Americana?

Activity 3
Vocabulary

Voluntary Exchange: Voluntary exchange occurs when a person or organization trades something of value with another person or organization in order to benefit. People or organizations trade because it benefits them. For example, people voluntarily exchange work for wages or salaries, and they use the income earned to buy food, clothing, and other goods and services.

Gains from Trade: Voluntary exchange occurs because both sides in the trade expect to benefit. The benefits that result from trade can be counted as gains from trade. For example, farmers may sell their harvests to buy cars. They benefit more from the cars than from keeping bushels of grain. The grain buyer benefits more from the grain than from the money exchanged with the farmer. Without trade, these benefits would not be realized. Any policies, such as tariffs or quotas that interfere with free trade, will reduce these benefits.

Imports: Imports are goods or services that are produced in one country and sold in another country. For example, coats made in Poland and sold in the United States are counted as imports into the U. S. Grain produced in the U. S. and sold in Poland is an import in Poland.

Exports: Exports are goods or services that are sold in one country but produced in another. For example, a Russian traveling on a Japanese airline is buying an export of Japanese travel services. Grain produced in the U. S. and sold in Poland is an export of the United States.

Protectionist policies: These are policies that a country enacts to prevent or to limit imports that may compete with domestic goods or services. These policies "protect" local workers and firms producing things that compete with these imports. The purpose of these policies is to raise the price of imports or to limit their availability so consumers will decide to buy more locally produced products. The two main forms of protectionism are tariffs and quotas. Protectionism interferes with free trade.

Tariff: A tariff is a tax on imports. When a tariff is imposed, the price of the import increases for local consumers. This means that they will buy fewer imports and probably will buy more local, competing products. Prices for consumers will rise on imports because of the tax. The demand for local products will increase, causing the price of those products to rise as well.

Quota: A quota is a limit placed on the number of imports. When a quota is imposed, the supply of foreign products falls, causing the price of imports to rise. At the same time, the demand for locally produced goods will rise, causing the price of those goods to rise.

Activity 4
Assessment

1. Give examples of voluntary exchange in which you have engaged today.

2. Define and give two examples of imports and of exports in your country.

3. Explain how exports pay for imports.

4. Explain how a tariff on imports protects local manufacturers who produce similar items.

5. Explain how an import quota protects local manufacturers who produce similar items.

6. Who gains and who loses from international trade?

7. Who gains and who loses from protectionist policies that restrict trade?

Centuries of Economic Growth: From Feathers to Robotics

by Angela Bullock and Sara Paul (USA), Anzhela Yevgushchenko (Ukraine), Vesselka Yotkova (Bulgaria)

LESSON DESCRIPTION

Students read scenarios about the production of Bibles over five historical time periods. Working in small groups, students create skits and develop a retrieval chart that is used to analyze factors that impact economic growth.

AGE LEVEL

14-19 years old

CONCEPTS

- economic growth
- labor productivity

CONTENT STANDARDS

Investment in factories, machinery, new technology, and the health, education, and training of people can raise future standards of living.

BENCHMARKS

Economic growth is a sustained rise in a nation's production of goods and services. It results from investments in human and physical capital, research and development, technological change, and improved institutional arrangements and incentives.

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.

Labor productivity is output per worker.

OBJECTIVES

- Students will define labor productivity.
- Students will identify factors that contribute to increases in productivity
- Students will explain the relationship between increases in productivity and economic growth.

- Students will explain why increasing productivity is important to an economy and individuals.

TIME REQUIRED

two class periods

MATERIALS

- copy of Activities 1 and 2 for each student
- transparencies of Visuals 1 and 2
- transparency of Activity 1

PROCEDURE

Day 1

1. Tell students that for the next two days they will study factors that have influenced economic growth over time.

2. Use Visual 1 and display the definition for economic growth. Explain that economic growth means producing increased amounts of goods and services over the long term. If the people in a nation want to experience an increase in their material standard of living, they must produce more goods and services. If output does not grow, one person or group can only obtain more goods and services if some other individual or group receives less.

3. Refer to Visual 1 and read the definition for labor productivity. Explain that to calculate labor productivity, output is divided by the time worked multiplied by the number of workers.

4. Model computing labor productivity using the data in problem 1.

   30 cars = 1 car per hour
   10 workers x 3 hours

5. Tell students to calculate the answer for problem two. (15 cars)

6. Distribute copies of Activities 1 and 2 to each student. Divide students into five groups. Assign each group one of the five scenarios from Activity 2.

7. Have each group read its assigned scenario and complete the appropriate section of Activity 1 for its time period.

8. Tell groups to create a skit that depicts the information in Activity 1 for their scenario. Inform groups that the skits will be presented at the beginning of the next class. Encourage students to bring in props.

Day 2

1. Display Visual 2. Explain that as each group presents a skit, the remaining students are to complete Activity 2 for the appropriate time period using information from the skit.

2. Following each skit, have group members review the correct answers for Activity 1 with the class. Ask one group member to write the correct answers in the appropriate column on Visual 2.

3. Once all skits have been presented, discuss the following.

   A. What happened to labor productivity from 800AD to 2003?
   (increased)

   B. What factors contributed to this change in labor productivity?
   (education and training, improvements in equipment and technology)

   C. What impact does an increase in labor productivity have on economic growth?
   (More output can be produced with the same amount of labor. When an economy produces more goods and services with available resources, economic growth occurs.)

   D. What is necessary for an economy to experience economic growth?
   (investment in factories, machinery, new technology, and the health, education and training of people)

   E. How does an increase in a nation's economic growth affect the material standard of living of its people?
   (The material standard of living for a society improves when an increase in real output of goods and services occurs relative to the growth in population. In the United States, as a result of the growth in real output relative to the growth of the population, the material standard of living has improved.)

   F. Tell students that capitalist countries have experienced impressive economic growth during this century. In the United States, real output has increased 15-fold since 1900 while population has only tripled. Ask students: What does this mean for the average United States resident?
   (Five times more goods and services are available to the average United States resident today than were available in 1900.)

CLOSURE

Review the main points of the lesson.

1. What is economic growth?
   (a sustained rise in a nation's production of goods and services)

2. What is labor productivity?
   (output per worker per hour)

3. What factors contribute to an increase in labor productivity?
   (investment in education and training, new technology and equipment)

4. What is the relationship between productivity and economic growth?
   (Economic growth results from increases in productivity.)

5. Why are people in a society concerned about increasing productivity?
   (When a society experiences increasing productivity, it can lead to improvement in the material standard of living for the people.)

ASSESSMENT

1. Display Visual 2. Have students write a short paragraph explaining why their president is concerned about this problem and what recommendations they would make to correct it.
   (Low productivity growth over time means the country's standard of living is not rising. Recommendations should include investment in health, education and training of people, new technology and equipment, and new factories.)

EXTENSION

1. Select a country and compare the standard of living of individuals in this country over three time periods and explain the relationship between productivity growth and standard of living.

2. Gather current and historical data on real GDP per capita for four different countries such as the United States, Ukraine, Latvia, and Japan. Analyze the data and explain the relationship between economic growth and standard of living.

Activity 1
Retrieval Chart

Factors Contributing to Economic Growth

	Labor Productivity (P) output (Q) = ---------- time (t) x #workers (w)	**Investment in Human Capital** **Training and Education**	**Investment in Physical Capital** **a. Equipment** **b. Technology**
800 AD	Q= w= t= P=		
1790	Q= w= t= P=		
1920	Q= w= t= P=		
1995	Q= w= t= P=		
2003	Q= w= t= P=		

Activity 2
Scenarios

Scenario One: 800 AD

Your name is Peter. You are a 9th century monk. Based on your successful completion of an apprenticeship program under a master scribe, the authorities have requested your services to produce Bibles. You must pay great attention to detail because many of the letters are created with magnificent color and ornate shapes. Your necessary equipment and supplies include parchment paper, feather pens, and ink. It is difficult for you to focus on the details of your creation as you do not own spectacles (eyeglasses). You work in the monastery library for 10 hours per day, from dusk until dawn, under candlelight. This job requires you to work 300 days per year, and it takes seven years for you to complete one Bible.

Scenario Two: 1790s

Your name is Johanne. After completing an extensive apprenticeship program to acquire the necessary skills to run a printing press, you now produce Bibles in your small print shop. Letters are made of lead and a special powder is used to dry the paper after it runs through the press. Your craft involves typesetting methods, which is time consuming; therefore, you work ten hours per day, which enables you to produce 300 Bibles in 150 days.

Scenario Three: 1920s

Your name is Frank. You own a large printing house. You have specific training in printing operations. Your printing house specializes in mass production. You have engineers on staff to correct problems that occur with the assembly line. The type set is automated; therefore, you produce 100 Bibles in each ten-hour shift.

Scenario Four: 1995

Your name is Angie. You have a four-year Liberal Arts degree. You work for Gothem Press, which is a state-of-the-art printing company. You received three months of on-the-job training learning how to program the computer system and how to coordinate the production of workers. Books, including the Bible, are produced at a rate of 1000 books per worker per hour.

Scenario Five: 2003

Your name is Christoff. You live in Kiev but work for an American publisher. You are extremely qualified for this position after extensive training at the State University of Kiev. Your job involves networking robotic technology and troubleshooting glitches in the computer program. All the computers used to produce Bibles in each of the five plants can be accessed from your home in Kiev. You produce one million Bibles per hour with the help of robotic technology, which you coordinate from your home office.

Visual 1
Productivity

Economic Growth: a sustained rise in a nation's production of goods and services

Labor Productivity: output per worker per hour

Labor Productivity Formula:

$$\text{Labor Productivity} = \frac{\text{Output}}{\text{Time Worked x Number of Workers}}$$

Use this formula to answer the problems below.

1. Ten workers produce 30 cars in 3 hours. What is the labor productivity rate per worker?

2. If 2 workers produce 60 cars in 2 hours, what is the labor productivity rate per worker per hour?

Visual 2

Assessment

At a recent news conference, your president expressed grave concern over the lag in productivity for the previous four quarters.

She has asked you to write a brief paragraph for the press on why this is a problem for your country and what must occur to correct the situation.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

	This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.
X	This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").