

# AN ECONOMIC EDUCATION NEWSLETTER

# INTERSECTIONS

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# LESSON SPOTLIGHT

## A Lesson to Accompany “Benjamin Franklin and the Birth of a Paper Money Economy”

Lesson by Andrew T. Hill, Ph.D., Federal Reserve Bank of Philadelphia

### Lesson Description

In this lesson students learn about the role of money in the colonial economy by participating in a trading activity in which they observe the effects of too little money on trade within a colony. They learn about the difficulties associated with barter and the characteristics and functions of money. They read the booklet “Benjamin Franklin and the Birth of a Paper Money Economy” to learn about Benjamin Franklin’s role in shaping our understanding of the role of money in the economy. The students participate in an activity to learn more about how a land bank would work. In the final activity, students learn how too much money can lead to inflation.

### Content Standards

#### National Standards in Economics

- **Standard 11:** Students will understand that money makes it easier to trade, borrow, save, invest, and compare the value of goods and services.
  - Benchmark 1, Grade 4: Money is anything widely accepted as final payment for goods and services.
  - Benchmark 2, Grade 4: Money makes trading easier by replacing barter with transactions involving currency, coins, or checks.
  - Benchmark 1, Grade 8: As a store of value, money makes it easier for people to save and defer consumption until the future.
  - Benchmark 2, Grade 8: As a unit of account, money is used to compare the market value of different goods and services.

#### Grade Level

Grades 9-12

#### Concepts

- Characteristics and functions of money
- Coincidence of wants
- Inflation
- Medium of exchange
- Money
- Store of value
- Unit of account

#### Time Required

Day 1: 45 minutes  
Day 2: 45 minutes

- **Standard 19:** Students will understand that unemployment imposes costs on individuals and nations. Unexpected inflation imposes costs on many people and benefits some others because it arbitrarily redistributes purchasing power. Inflation can reduce the rate of growth of national living standards, because individuals and organizations use resources to protect themselves against the uncertainty of future prices.
  - Benchmark 1, Grade 4: Inflation is an increase in most prices; deflation is a decrease in most prices.
  - Benchmark 3, Grade 8: Inflation reduces the value of money.
  - Benchmark 4, Grade 8: When people’s incomes increase more slowly than the inflation rate, their purchasing power declines.

#### National Standards for History

##### • Era 2, Colonization and Settlement, Grades 9-12

- **Standard 3:** How the values and institutions of European economic life took root in the colonies, and how slavery reshaped European and African life in the Americas.
- **Era 3, Revolution and the New Nation, Grades 9-12**
  - **Standard 2:** The impact of the American Revolution on politics, economy, and society.

#### National Council for the Social Studies Strands

- Time, continuity, and change
- Power, authority, and governance
- Production, distribution, and consumption





## Objectives

### Students will:

1. explain how money acts as a medium of exchange, unit of account, and store of value.
2. list the characteristics of money.
3. explain that too much money in an economy will likely lead to inflation, while too little money will hamper trade.
4. identify Benjamin Franklin's key understandings about money in the colonial economy.

## Materials

- A copy of "Benjamin Franklin and the Birth of a Paper Money Economy" by Farley Grubb for each student and the teacher.\*
- Handout 1, printed on white card stock and cut apart along the dashed line to make 10 trading direction cards for each group of 10 students.
- Handout 2, printed on yellow card stock and cut apart along the dashed lines to make 10 commodity cards for each group of 10 students.
- Handout 3, printed on green card stock and cut apart along the dashed lines to make eight coin cards for each group of 10 students.
- Handout 4, one per student.
- Handout 5, printed on white card stock and cut apart.
- Visuals 1 and 2
- Two different kinds of pasta, enough for each student to get at least five to 10 pieces.
- Two each of two different items to be

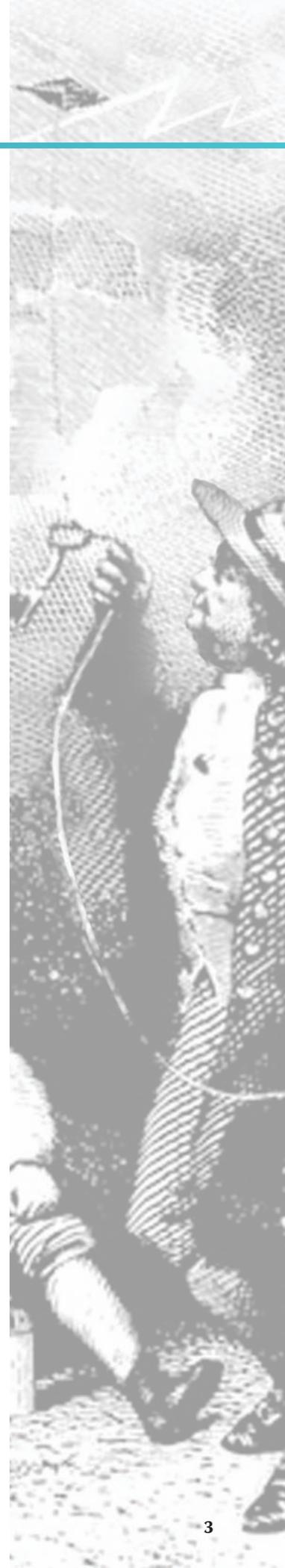
auctioned off, such as candy bars, homework passes, pencils, etc.

- 10 paper clips for each group of 10 students.
- Overhead projector markers.

## Preparation

1. In preparation for the trading activity, duplicate the necessary copies of Handouts 1, 2, and 3 as explained in the materials section of the lesson.
2. Paper-clip each trading direction card from Handout 1 to the appropriate commodity card from Handout 2 as listed in the table below. The trading direction card number appears in the lower right-hand corner of the sell portion of each trading card.
3. Produce additional sets of trading direction cards and commodity cards for each group of 10 students. Extra students will be paired with another student in one group.

Trading Direction Card Number	Commodity
1	45 bushels of corn
2	5 bolts of cloth
3	12 ducklings
4	2 barrels of salted pork
5	2 pounds of pig iron
6	3 dozen eggs
7	5 loaves of bread
8	1 barrel of tar
9	3 pounds of tobacco
10	2 bushels of wheat



\*Copies of "Benjamin Franklin and the Birth of a Paper Money Economy" can be ordered by visiting <http://www.newyorkfed.org/publications/result.cfm?pub=1007NN>  
A pdf version of the publication can be viewed and printed at <http://www.philadelphiafed.org/education/ben-franklin-and-paper-money-economy.pdf>

## Procedures Day 1

1. Explain to the students that they are going to participate in a trading game in order to learn more about the role of money in the colonial economy.
2. Divide the class into groups of 10 students. Extra students should be paired with students already assigned to one of the groups. They will share a trading direction card. Assign each group of students a section of the classroom as their market and tell them that they may not leave that section of the classroom during the trading activity.
3. Explain to the students that once you begin to distribute the trading cards there may not be any talking or other communication until you say “trade now.” They may not begin to trade until you say “trade now.” Emphasize to the students that they may trade only with other students in their group. Give each student or pair of students in each group one of the paper-clipped trading direction card/commodity card combinations. Distribute eight of the coin cards randomly in each group so that eight of the 10 students or pairs of students have a coin card.
4. Explain to the students that there will be two rounds of trading. In each round, they must sell the commodity in the sell portion of their trading direction card for a coin card and purchase the commodity listed in the buy portion of their trading direction card with a coin card. Emphasize that each commodity card is worth only one coin card. They may carry out the trades in either order. Once they have carried out both trades, they should return to their seats.
5. Begin trading by saying “trade now.”
6. After all of the students have completed their trades, discuss the following:
  - Was the trading that took place in the activity barter? (*No*) Why not? (*It was not barter because money was being used and commodities were not being traded directly for other commodities.*)
  - Explain that money is anything widely accepted

as final payment for goods and services. Was everyone able to buy and sell the commodities they were instructed to exchange in this round? (*Answers will vary, but it is likely in this round that everyone was able to exchange the commodities they were instructed to exchange on their trading direction card.*)



- Why was everyone able to buy and sell commodities using the coin cards? (*Because the coin cards were money and were accepted as final payment for goods and services. They all knew that they could use the coin cards to buy commodities and that if they sold a commodity in exchange for a coin card, the coin card would hold its value until they could find and purchase the commodity they wanted.*)

- Explain that money makes trading easier by replacing barter with transactions involving currency, coins, or checks. Explain that a coincidence of wants occurs when each participant in a trade is willing to trade what he has in exchange for what the other participant is willing to trade. Barter requires a coincidence of wants. Finding a coincidence of wants can often be difficult and that makes barter time consuming.
7. Explain to the students that it is now time for Round 2 of the trading activity. Direct the students to get back together with their groups in the market location assigned to them in the classroom. Working together, have them paper-clip the appropriate commodity card to the appropriate trading direction card using the numbers in the lower right-hand corner of the sell portion of the trading direction cards and the numbers in the lower right-hand corner of the commodity cards as guides. Collect the coin cards from each group. Spot check the paper-clipped trading direction cards and commodity cards and collect them from the students.
  8. Explain that in this round they will again be trading for commodities using the directions on the trading direction cards. Remind them that once you begin to distribute the cards, they may

not communicate with each other or begin trading until you say “trade now.” Within each group, redistribute the paper-clipped card combinations, trying to give each student a different combination than she had in Round 1. Distribute one coin card randomly to only two students in each group. Emphasize that they must trade using the money. They may not barter. Each commodity is worth one coin card. Once they have completed both trades, they should return to their seats.

9. Begin trading by saying “trade now.” Time how long it takes all of the groups to have completed all of the trades. If they have not been able to complete all of the trades at the end of three minutes, stop the trading and ask the students to return to their seats.

10. Discuss the following:

- Which round of trading was more difficult? (*Round 2*)
- Why was Round 2 more difficult? (*Round 2 was more difficult because there were fewer coins available in the market. Those who had coins had to buy the commodities they wanted from those without coins before those originally without coins could buy the commodities they wanted.*)
- Was anyone unable to carry out one or both of the trades they were instructed to make on their trading direction card? (*Answers will vary, but it is likely that the answer will be yes.*)
- Why were some people unable to complete one or both of the trades? (*There wasn't enough money.*)
- If we had too little money available in our economy, what would likely happen to economic activity? (*If there is too little money available in the economy, economic activity will likely slow down because it will take longer for exchanges to take place.*)

11. Explain that for something to serve as a good form of money, it must perform three functions. Display the top portion of Visual 1 and cover the



bottom section of the visual on the characteristics of money. Explain each of the functions of money as follows:

- Money acts as a go-between to make it easier to buy things. Sellers agree to accept it in exchange for a good or service. In this way money functions as a medium of exchange. Money encourages specialization by decreasing the costs in time and effort of exchange.
- Money serves as a way to measure and compare the value of goods and services in relation to one another. When comparing prices, individuals can determine if one good is a better buy than another. Money also allows people to keep accurate financial records. As a unit of account, money is used to compare the market value of different goods and services.

- When people hold money, they are using it to maintain value until they want to exchange that value for a good or service. As a store of value, money makes it easier for people to save and defer consumption until the future.

12. Discuss the following:

- In the trading activity, what was the medium of exchange? (*Coin cards*)
- Did the coin cards serve as a good medium of exchange? (*The coin cards did serve as a good medium of exchange, particularly in Round 1, when the cards were relatively plentiful. In Round 2, the coin cards functioned less effectively as a medium of exchange because there were fewer of them. The result of having fewer coin cards was that exchange was slower and, in some cases, completely hampered.*)
- Did the coin cards serve as a good unit of account? (*Yes.*) Why? (*The price of each commodity was one coin card. The prices of all commodities were denominated in coin cards.*)
- Did the coin cards serve as a good store of value? (*Yes.*) Why? (*When a seller received a coin card in*

*exchange for a commodity he sold, that coin card retained its value and could be used to purchase the commodity he wanted to buy.)*

13. Explain that for money to perform its functions well, it must possess six characteristics. Display the bottom portion of Visual 1. Explain each of the characteristics of money as follows:

- Portable—Money must be easy to carry.
- Divisible—Money must be easily divided into small parts so that people can purchase goods and services at any price.
- Durable—Money must be able to withstand the wear and tear of many people using it.
- Relatively scarce—Money must be relatively scarce and hard for people to obtain.
- Acceptable—Money must be widely accepted as a medium of exchange.
- Relatively stable in value—Money’s value must remain constant over long periods of time.

14. Explain that during different periods of time, in different parts of the world, salt, paper money, and livestock have all been used as money.

- Which of these forms of money is most portable? (*Paper money*) Why? (*Large quantities of salt can be very heavy to transport. Livestock can be very cumbersome to transport as well. Paper money is the lightest and easiest to carry around.*)
- What makes paper money divisible in today’s economy? (*We have Federal Reserve notes of multiple denominations and we also have coins to make money divisible.*)
- Which of the three historic forms of money is most durable? (*Paper money*) Why? (*Salt washes away if it gets wet. Livestock doesn’t live forever and needs to be fed and cared for. Paper money can last a long time.*)

- Why aren’t salt and livestock relatively scarce? (*Salt can be mined from the earth or harvested through evaporation from sea water. Livestock can reproduce.*) Paper money may or may not be relatively scarce, depending on how it is managed by the government body responsible for issuing it. However, in the United States, paper money is relatively scarce thanks to Federal Reserve monetary policy.

- Which of the three forms of money is the only one generally accepted in our economy? (*Paper money.*)
- Is our money relatively stable in value? (*Answers will vary.*) Our money is relatively stable in value. How do you know? (*Inflation is low in our economy. Therefore, our money is relatively stable in value.*)

15. Distribute a copy of “Benjamin Franklin and the Birth of a Paper Money Economy” by Farley Grubb to each student. Distribute a copy of Handout 4 to each student. Explain that Handout 4 is a reading guide that will help them focus on key points in the publication. Instruct students to read the publication and complete the reading guide for homework.

## Procedures Day 2

16. Review the students’ answers to the chronology section on Handout 4 by discussing the following:
- Benjamin Franklin arrived in Philadelphia in 1723, the same year that Pennsylvania first issued paper money. Those two events in the chronology should be labeled with a “1.”
  - Franklin formed the Junto discussion group in 1727, and that event should be labeled “2.”
  - In 1728, Franklin, as an employee of Samuel Keimer, helped to design and print the paper money authorized by the New Jersey legislature. That event should be labeled “3.”
  - Franklin argued in the Junto for the continuance of paper money in Pennsylvania in 1729. In that same year, he purchased the *Pennsylvania*

*Gazette* newspaper and published “A Modest Enquiry into the Nature and Necessity of a Paper Currency.” These three events should all be labeled “4.”

- Franklin first printed paper money for Pennsylvania in 1731. That event should be labeled “5.”
- In 1737, Franklin invented the art of nature printing from leaf casts, via a copperplate press, for transferring a sage leaf image onto the back of paper money bills, a technique intended to thwart counterfeiters. That event should be labeled “6.”
- In 1751, Franklin went to London to act as agent for Pennsylvania. That event should be labeled “7.”
- In 1765, Franklin wrote a proposal for a North-America-wide universal paper currency modeled on Pennsylvania’s land bank system. That event should be labeled “8.”
- In 1781, Franklin wrote “Of the Paper Money of America.” That event should be labeled “9.”

17. Review the students’ answers to the short answer section of Handout 4 by discussing the following:

- What was the state of Pennsylvania’s economy when Benjamin Franklin arrived there at the age of 17? (*The economy was in the doldrums. There were many vacant houses for rent, economic activity was sluggish, and there had been a decline in permanent inhabitants.*)
- What had likely caused the economic conditions that Franklin saw when he first arrived in Pennsylvania? (*Just prior to 1723, foreign trade had stripped Pennsylvania of its gold and silver coins: Pennsylvanians had exchanged much of their gold and silver coins for manufactured goods brought in from Europe. Without this money, local trade within the colony was difficult to transact.*)
- Explain the importance of gold and silver coins



in the colonial era. (*Gold and silver coins were the monetary medium of exchange between colonies and countries. Gold and silver coins also served as a medium of exchange for internal trade within a colony or country.*)

- What is meant by the term “medium of exchange”? (*“Medium of exchange” is one of the functions of money. In this function, money acts as a go-between to make it easier to buy and sell goods and services or pay debts. Money, through its function as a medium of exchange, allows buyers and sellers to avoid the difficulties associated with barter exchanges of goods and services.*)
- How did Pennsylvanians get gold and silver coins? (*Pennsylvanians did not produce gold or silver coins and could get them only through trade. Pennsylvanians would export goods to Spanish and Portuguese colonies in exchange for gold and silver coins.*)
- What did they do with them when they got them? (*The coins were either kept in Pennsylvania to serve as a medium of exchange for internal trade or exported to Europe to pay for manufactured goods.*)
- What did Benjamin Franklin observe about the flows of gold and silver coins to and from Pennsylvania? (*Franklin observed that foreign trade could lead to temporary shortages of gold and silver coins that would inhibit internal trade in Pennsylvania.*)
- When Pennsylvania issued paper currency, what was it backed by? (*The paper currency issued by Pennsylvania was backed by the land assets of subjects*

*who borrowed paper money from the government and by the future taxes owed to the government that could be paid in this paper money.)*

- What did Franklin observe after the Pennsylvania legislature issued paper money? *(Franklin observed that internal trade, employment, new construction, and the number of inhabitants in Pennsylvania all increased after the legislature issued paper money.)*
- In “A Modest Enquiry into the Nature and Necessity of a Paper Currency,” Franklin argues that a lack of money to transact trade within the province carried heavy costs. In that publication:
- What does he argue is the alternative to paper money in Pennsylvania? *(Barter.)*
- What does he argue that alternative leads to? *(Franklin argues that barter increases the cost of local exchange and local interest rates and reduces wages, employment, immigration, investment, and development.)*
- What does Franklin argue gives paper money its value? *(Franklin argues that the quantity of paper money relative to the volume of internal trade within the colony governs the value of paper money.)*
- What does Franklin argue should be used to back paper money? *(Land.) Why? (Franklin argues that land is a more certain and steady asset with which to back paper money because its supply will not fluctuate with trade as much as the supply of gold and silver does, its supply is not subject to long-run expansion as New World gold and silver had been, and land cannot be exported from the colony as gold and silver coins can.)*
- What caused the early paper monies in New England and South Carolina to depreciate in value? *(The quantities of paper money in both New England and South Carolina were not properly*

*controlled, and when the amount of paper money exceeded the volume of internal trade in those colonies, the paper money lost value.)*

- In 1764, Franklin argued that a bank-based system of paper money backed by gold and silver would be impractical. What was his argument? *(Since the colonies were not able to govern their own foreign trade and capital controls, they were not able to stem the flow of gold and silver coin out of North America. Therefore, the colonies would not be able to retain enough gold and silver coin to back such a paper currency and support trade in the colonies.)* Explain to the students that capital controls are restrictions on the transfer of money in or out of a country.



18. Tell the students that in order to better understand how a land bank operates the class will observe a role-playing activity. Ask four students to come to the front of the classroom. Give one student a deed card, a corn card, and a horse card from Handout 5.

Give the second student a horse card. Give the third student a deed card. Give the fourth student a corn card.

19. Explain that all four students would like to borrow \$5,000. The colony has established a land bank. The bank will make loans to those individuals who own land that can be put up for collateral. Explain that collateral is anything accepted as security for the repayment of a loan. Discuss the following:
  - How many of the students will be able to get a loan from the land bank? *(Two.)*
  - Why will the other students not be able to get a loan from the land bank? *(They do not own any land that they can put up as collateral.)*

20. In exchange for the deed cards to be held as collateral, make the \$5,000 loans to those students with deed cards. Ask the students to return to their desks and discuss the following:

- How many of the students will be able to get a loan from the land bank? (*Two.*)
- By how much did the loans increase the money supply? (*\$10,000.*)
- What will those students who got loans do with the money they borrowed from the land bank? (*Use the money to purchase goods or services.*)
- Explain that once the money was issued by the land bank it would circulate in the economy as a medium of exchange and it would eventually be used to repay the loan. Therefore, the money loaned by the land bank would circulate as a paper currency backed by the land assets of those who obtain loans from the bank.
- Explain that Franklin argued that this kind of land bank would automatically stabilize the amount of money in the economy. If there was too little paper money in the economy, people would be forced to barter. Since bartering is time consuming and relatively expensive compared to using money, people would borrow more money from the land bank in order to make trading cheaper. As a result, the amount of paper money in the economy would increase. In Franklin's view, a properly run land bank would never loan more paper money than the value of the land used to back it. So the value of the paper money would never fall below the value of the land used to back it.

21. Explain that the class will now participate in another activity that will help everyone to better understand the effects of different amounts of money on the economy. Show the students the two different goods (e.g., candy bars, homework passes, pencils, etc.) that you will be auctioning. Explain that there are two of each item and that you will be auctioning these items separately in two rounds. These goods represent the total output of the colonial economy in two time periods.

You will auction the items to the highest bidders. They will be able to keep the items.

22. Explain that in this economy dried pasta will be used as money. Each student will receive some money and will be able to use it to bid on items in the auction. Emphasize that the rules of the activity forbid students from pooling their money with that of other students.
23. Distribute random amounts of one kind of dried pasta. Tell the students that each piece of dried pasta is worth \$1.
24. Display Visual 2. Enter the name of each item to be auctioned in the first column of the table. Auction the first item to the highest bidder. Collect the correct amount of pasta from the highest bidder. Record the selling price for the first item in row 2, column 2 (under "Price in Round 1") of Visual 2.
25. Auction the second item to the highest bidder. As with the first item, collect the correct amount of pasta from the highest bidder and record the selling price for the second item in row 3, column 2 (under "Price in Round 1") of Visual 2.
26. Distribute random amounts of the second kind of dried pasta to each student in the class. Tell the students that while each piece of the first kind of pasta continues to be worth \$1 in Round 2, each piece of the second kind of pasta will be worth \$5 in Round 2. Students can use both kinds of pasta as money in the Round 2 auction.
27. As in Round 1, auction each item, collect the correct amount of pasta from the highest bidder, and record the selling price for each item in Round 2 in column 3 of Visual 2.
28. Discuss the following:
- Were prices higher in Round 1 or Round 2? (*Round 2*)
  - Why were prices higher in Round 2? (*Prices were higher in Round 2 because most students had more*)

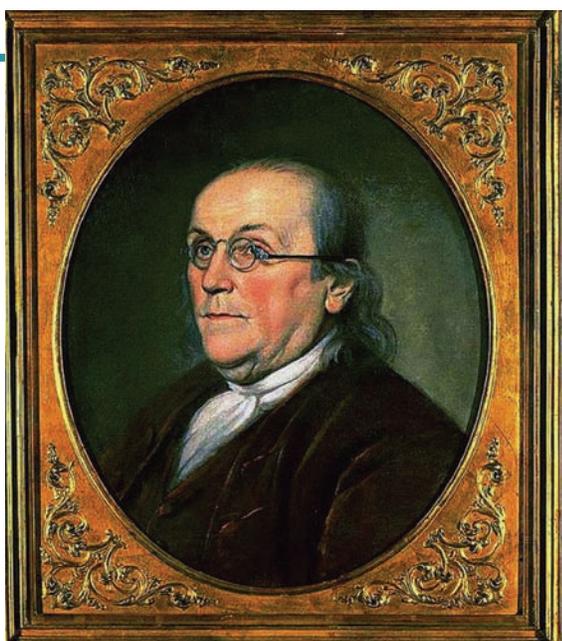
money in that round. With more money being used to bid on the same number of items, the prices paid by the highest bidders in Round 2 were higher.)

29. Explain that inflation is an increase in most prices. Inflation occurs when there is an increase in the average of many prices in the economy. In the activity, we know inflation occurred because the prices of all items in our two-good economy increased. Inflation in the activity was caused by a significant increase in the money supply, which was not coupled with any increase in the number of goods and services available for purchase in the economy. When inflation occurs it reduces the value of money because, with higher prices and steady income, consumers are able to buy fewer goods and services. For people whose incomes do not increase as rapidly as the general level of prices, those consumers are not able to buy the same amount of goods and services as they did previously.
30. Discuss the following:
- What did Benjamin Franklin observe about inflation? (*In 1781, Franklin wrote "Of the Paper Money of America." In that pamphlet, he argued that the massive depreciation of the Continental dollar operated as an inflation tax.*)
  - What is an inflation tax? (*An inflation tax is a tax on money itself. It is a transfer of resources to the government from businesses and consumers that occurs when government spending is financed by printing government-issued money rather than being financed by government taxes or borrowing from the public. When the government obtains goods and services by printing new money and inflation occurs, consumers and businesses holding money pay an inflation tax because inflation erodes the purchasing power of their money holdings.*)
  - How did the burden of the inflation tax associated with the Continental dollar fall more equally on the citizenry than did most other taxes in the colonial period? (*In effect, every person paid his share of the tax according to how long he retained a Continental dollar between the time he received it in*

*payment and when he spent it again, the intervening inflation in prices and depreciation of the money being the tax paid.*)

## Closure

31. Review important content from the lesson by discussing the following:
- What are the functions of money? (*Medium of exchange, unit of account, and store of value.*)
  - What are the characteristics of money? (*Portable, divisible, durable, relatively scarce, acceptable, and relatively stable in value.*)
  - Why do Federal Reserve notes, our paper money, serve as a good medium of exchange? (*Federal Reserve notes serve as a good medium of exchange because they are widely accepted in exchange for goods and services and the payment of debts.*)
  - Why does our money serve as a good unit of account? (*You can use dollars to compare the values of different goods and services in the market.*)
  - Why does our money serve as a good store of value? (*If you get a Federal Reserve note, you can keep it from one time period to another, and it will be able to buy approximately the same amount of a good or service in both periods as long as there is little or no inflation.*)
  - What will likely happen if there is too much money in an economy? (*The money will likely lose its value and there will be inflation.*)
  - What will likely happen if there is too little money in an economy? (*Exchange will be hampered if there is too little money in an economy. People will likely barter more. Since barter is time consuming, the cost of trading will likely be higher with barter than with using money.*)
  - What did Benjamin Franklin observe about the flows of gold and silver coins to and from Pennsylvania? (*Franklin observed that foreign trade*



*could lead to temporary shortages of gold and silver coin that would inhibit internal trade in Pennsylvania.)*

- What did Benjamin Franklin observe after the Pennsylvania legislature issued paper money? *(Franklin observed that internal trade, employment, new construction, and the number of inhabitants in Pennsylvania all increased after the legislature issued paper money.)*
- What did Benjamin Franklin propose as a means for backing paper money? *(Franklin proposed a land bank system for backing paper money. He proposed that the paper money issued by the bank would be backed by the land assets of those who borrowed money from the bank.)*
- What did Benjamin Franklin observe about the Continental dollar? *(Franklin observed that the depreciation of the Continental dollar led to an inflation tax. He observed that, in effect, every person paid his share of the tax according to how long he retained a Continental dollar between the time he received it in payment and when he spent it again, the intervening inflation in prices and depreciation of the money being the tax paid.)*

## Assessment

32. Ask the students to write a headline and an article for an issue of the *Pennsylvania Gazette*, the colonial newspaper Benjamin Franklin bought in 1729. The newspaper article should explain to readers:

- the three functions of money,
  - the characteristics of money,
  - the effect of too little money in an economy,
  - the effect of too much money in an economy,
  - Benjamin Franklin's ideas about a properly run land bank, and
  - Benjamin Franklin's observation about the inflation tax associated with the Continental dollar.
- Answers should include the following:

*Money functions as a medium of exchange, a unit of account, and a store of value. Money should be portable, divisible, durable, relatively scarce, acceptable, and relatively stable in value. Too little money in an economy will likely result in the slowing of economic activity and an increase in bartering, which has a higher cost of exchange than using money. Too much money in an economy will likely result in money losing its value through inflation.*

*Benjamin Franklin proposed backing money with land assets through a properly run land bank. Such a land bank would make loans of paper money in exchange for land put up as collateral. In Franklin's view, the supply of money issued by the land bank would be automatically stabilizing, since the bank would issue paper money only up to the limit imposed by the total value of land available to back it. If the supply of money is too small, people will be forced to barter. Since bartering is costly, people would borrow more money from the land bank, thereby increasing the supply of money. Franklin observed that the depreciation in value of the Continental dollar associated with the government's printing too many of them resulted in an inflation tax. In effect, every man paid his share of the tax according to how long he retained a Continental dollar—from the time he received it in payment until he spent it again, the intervening inflation in prices and depreciation of the money being the tax paid. □*



## **VISUAL 1**

### **FUNCTIONS AND CHARACTERISTICS OF MONEY**

## **FUNCTIONS OF MONEY:**

- Medium of Exchange
- Unit of Account
- Store of Value

## **CHARACTERISTICS OF MONEY:**

- Portable
- Divisible
- Durable
- Relatively Scarce
- Acceptable
- Relatively Stable in Value

<b>Auction Item</b>	<b>Price in Round 1</b>	<b>Price in Round 2</b>



# HANDOUT 1

## TRADING DIRECTION CARDS

### SELL

You have **45 bushels of corn** you are willing to sell for gold or silver coins. You will accept no other form of payment.

1

### BUY

You would like to buy **5 bolts of cloth**.

### SELL

You have **5 bolts of cloth** you are willing to sell for gold or silver coins. You will accept no other form of payment.

2

### BUY

You would like to buy **12 ducklings**.

### SELL

You have **12 ducklings** you are willing to sell for gold or silver coins. You will accept no other form of payment.

3

### BUY

You would like to buy **2 barrels of salted pork**.

### SELL

You have **2 barrels of salted pork** you are willing to sell for gold or silver coins. You will accept no other form of payment.

4

### BUY

You would like to buy **45 bushels of corn**.

### SELL

You have **2 pounds of pig iron** you are willing to sell for gold or silver coins. You will accept no other form of payment.

5

### BUY

You would like to buy **3 pounds of tobacco**.

### SELL

You have **3 dozen eggs** you are willing to sell for gold or silver coins. You will accept no other form of payment.

6

### BUY

You would like to buy **1 barrel of tar**.

### SELL

You have **5 loaves of bread** you are willing to sell for gold or silver coins. You will accept no other form of payment.

7

### BUY

You would like to buy **2 bushels of wheat**.

### SELL

You have **1 barrel of tar** you are willing to sell for gold or silver coins. You will accept no other form of payment.

8

### BUY

You would like to buy **5 loaves of bread**.

### SELL

You have **3 pounds of tobacco** you are willing to sell for gold or silver coins. You will accept no other form of payment.

9

### BUY

You would like to buy **3 dozen eggs**.

### SELL

You have **2 bushels of wheat** you are willing to sell for gold or silver coins. You will accept no other form of payment.

10

### BUY

You would like to buy **2 pounds of pig iron**.

**HANDOUT 2**  
COMMODITY CARDS



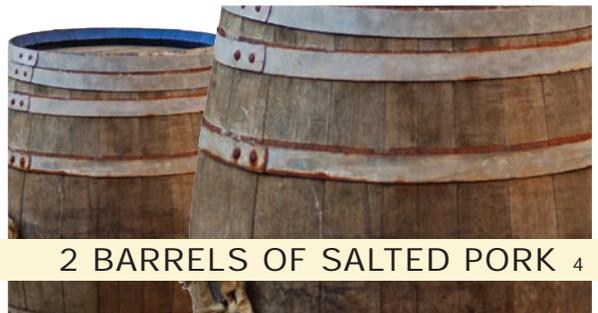
45 BUSHELS OF CORN 1



5 BOLTS OF CLOTH 2



12 DUCKLINGS 3



2 BARRELS OF SALTED PORK 4



2 POUNDS OF PIG IRON 5



3 DOZEN EGGS 6



5 LOAVES OF BREAD 7



1 BARREL OF TAR 8



3 POUNDS OF TOBACCO 9



2 BUSHELS OF WHEAT 10





## HANDOUT 4

### READING GUIDE

Name: \_\_\_\_\_

Read "Benjamin Franklin and the Birth of a Paper Money Economy" and complete the following questions.

#### I. Chronology

Place the following events in chronological order by numbering them in the blanks to the left of the statements. Use the same number for those events that occurred in the same year.

- \_\_\_\_\_ As an employee of Samuel Keimer, Franklin helped to design and print the paper money authorized by the New Jersey legislature.
- \_\_\_\_\_ Franklin wrote a proposal for a North-America-wide universal paper currency modeled on Pennsylvania's land bank system.
- \_\_\_\_\_ Franklin first printed paper money for Pennsylvania.
- \_\_\_\_\_ Franklin went to London to act as agent for Pennsylvania.
- \_\_\_\_\_ Franklin arrived in Philadelphia.
- \_\_\_\_\_ Franklin wrote "Of the Paper Money of America."
- \_\_\_\_\_ Franklin invented the art of nature printing from leaf casts, using a copper-plate press, for transferring a sage leaf image onto the back of paper money bills, a technique intended to thwart counterfeiters.
- \_\_\_\_\_ Franklin argued for the continuance of paper money in Pennsylvania in the Junto.
- \_\_\_\_\_ Paper money was first issued in Pennsylvania.
- \_\_\_\_\_ Franklin published "A Modest Enquiry into the Nature and Necessity of a Paper Currency."
- \_\_\_\_\_ Franklin formed the Junto discussion group.
- \_\_\_\_\_ Franklin purchased the *Pennsylvania Gazette* newspaper.



## HANDOUT 4

### READING GUIDE (CONTINUED)

#### II. Short Answer

Provide short answers to each of the following questions.

1. What was the condition of Pennsylvania's economy when Benjamin Franklin arrived there at the age of 17?
2. What had likely caused the economic conditions that Franklin saw when he first arrived in Pennsylvania?
3. Explain the importance of gold and silver coins in the colonial era.
4. What is meant by the term "medium of exchange"?
5. How did Pennsylvanians get gold and silver coins? What did they do with them when they got them?
6. What did Benjamin Franklin observe about the flows of gold and silver coins to and from Pennsylvania?
7. When Pennsylvania issued paper currency, what was it backed by?



**HANDOUT 4**  
READING GUIDE (CONTINUED)

II. Short Answer (continued)

8. What did Franklin observe after the Pennsylvania legislature issued paper money?

9. In "A Modest Enquiry into the Nature and Necessity of a Paper Currency," Franklin argues that a lack of money to transact trade within the province carries heavy costs. In that publication:

What does he argue is the alternative to paper money in Pennsylvania?

What does he argue that alternative leads to?

What does Franklin argue gives paper money its value?

What does Franklin argue should be used to back paper money? Why?

10. What caused the early paper monies in New England and South Carolina to depreciate in value?

11. In 1764, Franklin argued that a bank-based system of paper money backed by gold and silver in the colonies would be impractical. What was his argument?

<p><b>Deed</b></p> <p>This certifies that the bearer owns <b>Little Raccoon Creek Farm</b> Value = \$5,000</p>	<p><b>Deed</b></p> <p>This certifies that the bearer owns <b>Big Stork Farm</b> Value = \$5,000</p>
<p><b>300 Bushels of Corn</b></p> 	<p><b>300 Bushels of Corn</b></p> 
 <p><b>One Horse</b></p>	 <p><b>One Horse</b></p>
<p>\$5,000 \$5,000</p> <p><b>Land Bank of Pennsylvania</b></p> <p>\$5,000 \$5,000</p>	<p>\$5,000 \$5,000</p> <p><b>Land Bank of Pennsylvania</b></p> <p>\$5,000 \$5,000</p>

# THE RESOURCE RACK

Numerous lesson plans for use in the K-12 classroom are available to be downloaded free of charge at the Federal Reserve Bank of Philadelphia’s website. In this issue, we highlight eight lesson plans that make use of children’s books to teach elementary students economics and personal finance. To download these lessons and more, visit:

[www.philadelphiafed.org/education/teachers/lesson-plans/](http://www.philadelphiafed.org/education/teachers/lesson-plans/)

Lesson Title	Lesson Description and Concepts	Age Level
<p><b>Tortilla Factory</b></p>	<p>Students observe the teacher produce a paper taco and produce their own paper tacos following the process demonstrated by the teacher. Students learn about the productive resources—human resources, natural resources, and capital resources—and intermediate goods used to make final goods and services. They listen to the book “Tortilla Factory” and identify the productive resources and intermediate goods used to produce corn tortillas. Students classify the resources used to produce their paper tacos.</p> <p><b>Concepts:</b> productive resources, natural resources, human resources, capital resources, intermediate goods</p>	<p>8-10 years</p>
<p><b>Saturday Sancocho</b></p>	<p>Students listen to a story and answer questions about a family in Central or South America that barter to get the ingredients for chicken sancocho, a kind of stew. The students complete sentences that record the various trades carried out by the family to obtain all of the ingredients for the sancocho. They also participate in trading activities that illustrate money’s advantages over barter.</p> <p><b>Concepts:</b> barter, coincidence of wants, exchange, money</p>	<p>8-10 years</p>
<p><b>A Basket of Bangles: How a Business Begins</b></p>	<p>Students listen to a story and answer questions about lending in Bangladesh. They complete a diagram that shows the impact of lending on a community. Working as a class, they compare the similarities and differences between banks lending in the United States and the Grameen Bank lending in Bangladesh. Students work with a partner to estimate profits based on Sufiya’s prices and costs in the book.</p> <p><b>Concepts:</b> banks, collateral, interest, profit</p>	<p>9-11 years</p>

Lesson Title	Lesson Description and Concepts	Age Level
<p>Less Than Zero</p>	<p>Students learn about saving, savings goals, interest, borrowing, and opportunity cost by reading “Less Than Zero” by Stuart J. Murphy. Students use a number line and a line graph to track spending and borrowing in the story.</p> <p>Concepts: borrowing, interest, saving, savings goal</p>	<p>8-10 years</p>
<p>Monster Musical Chairs</p>	<p>Students listen to the book “Monster Musical Chairs” and identify the scarcity problem the monsters had—not enough chairs for every monster to have one. Students wear a picture of a want they have drawn and play a version of musical chairs in which the chairs are labeled goods. Students learn that a good can satisfy a want. They also learn that due to scarcity not everyone’s wants are satisfied.</p> <p>Concepts: economic want, good, scarcity</p>	<p>5-6 years</p>
<p>On the Court with ... Michael Jordan</p>	<p>Students participate in a simulation to learn about choices, alternatives, opportunity cost, and human capital. They learn the PACED decision-making model, apply the model, and recognize that learning the model is an investment in their human capital. Student groups build a tower with paper cups. Each group has different physical abilities based on an assigned level of human capital.</p> <p>Concepts: alternatives, decision-making, human capital, investment in human capital, opportunity cost</p>	<p>9-11 years</p>
<p>The Pickle Patch Bathtub</p>	<p>Students learn about opportunity cost, saving, savings goals, and a savings plan by reading “The Pickle Patch Bathtub” by Frances Kennedy. Students will develop savings plans that lead to their own savings goals.</p> <p>Concepts: opportunity cost, saving, savings goal, savings plan</p>	<p>8-10 years</p>
<p>So Few of Me</p>	<p>Students learn about scarcity, alternatives, choices, and opportunity costs by reading “So Few of Me” by Peter H. Reynolds. The class participates in an activity to help Perdita figure out her morning schedule at summer camp. The students identify Perdita’s alternatives, choose activities for her, and identify the opportunity costs of those choices. Then, students work in groups to make choices and identify opportunity costs for Juan’s after-school schedule.</p> <p>Concepts: choice, alternative, opportunity cost, scarcity</p>	<p>7-9 years</p>

## Making Sense of Money and Banking: A Course for Teachers

This course, taught by Federal Reserve economists, economic education specialists, and staff from the state centers on economic education, covers money, banking, and the Federal Reserve System. It will include grade-level-specific breakout sessions aimed at providing teachers with lesson plans that can be implemented right away in their classrooms. The course includes sessions on the history of central banking and a visit to the sites of early central banking, which are part of Independence National Historical Park. Emphasis is placed on active- and collaborative-learning teaching methods and curricula for teaching money and banking in the K-12 classroom. Participants will receive professional development credit in their state.

**When:** July 20 - 24, 2009 – 8:00 a.m. to 3:30 p.m.

**Where:** Federal Reserve Bank of Philadelphia  
7th and Arch Streets  
Philadelphia, PA 19106

**For:** Elementary, middle, and high school teachers

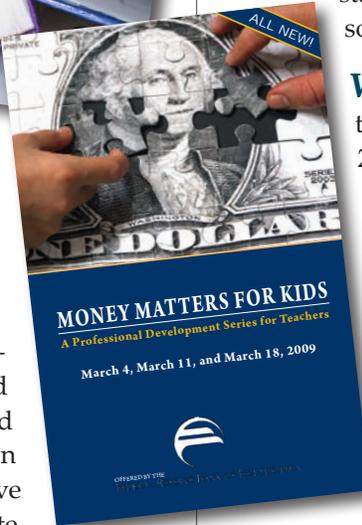
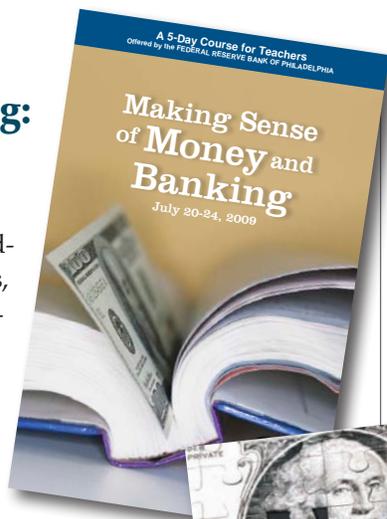
**Prerequisites & Requirements:** There are no prerequisites for this course. Participants are required to attend all five days.

**Cost:** There is a \$50.00 registration fee payable by credit card at time of registration. Your registration fee includes breakfast and lunch each day and all conference materials. We accept MasterCard, Visa, and American Express. The registration fee is nonrefundable after the registration deadline.

**Credit:** Teachers who complete all five days of the course will receive 30 hours of professional development credit in their respective states.

**Registration Deadline:** July 1, 2009

NOTE: Security measures at the Federal Reserve require participants to pre-register for these programs. A valid photo ID will be required for admission to the program. Participants will receive a confirmation e-mail from the Federal Reserve at the time of registration



## Money Matters for Kids: A Professional Development Series for Teachers

This three-evening professional development program introduces elementary school teachers to methods for teaching personal finance topics such as personal decision-making, saving, spending, budgeting, and the wise use of credit. Taught by Federal Reserve economic education specialists, this program emphasizes active- and collaborative-learning teaching methods that help elementary school teachers meet state and national standards in economics and personal finance.

**When:** Participants are required to attend all three sessions: March 4, March 11, and March 18, 2009, 5:00 p.m. to 8:00 p.m.

**Where:** Federal Reserve Bank of Philadelphia  
7th and Arch Streets  
Philadelphia, PA 19106

**For:** Elementary, middle, and high school teachers

**Prerequisites:** There are no prerequisites for this course. Open to grades K-5 teachers.

**Requirements:** Participants are required to attend all three sessions. Upon completing this program, teachers will receive a copy of the National Council on Economic Education's curriculum packages *Financial Fitness for Life, Grades K-2* and *Grades 3-5*.

**Cost:** There is a \$25.00 registration fee payable by credit card at time of registration. Your registration fee includes dinner at each session and all conference materials. We accept MasterCard, Visa, and American Express. The registration fee is nonrefundable after the registration deadline.

**Credit:** Upon completion of all three sessions, teachers from Pennsylvania, New Jersey, and Delaware will receive seven professional development hours in their respective states.

**Registration Deadline:** February 25, 2009

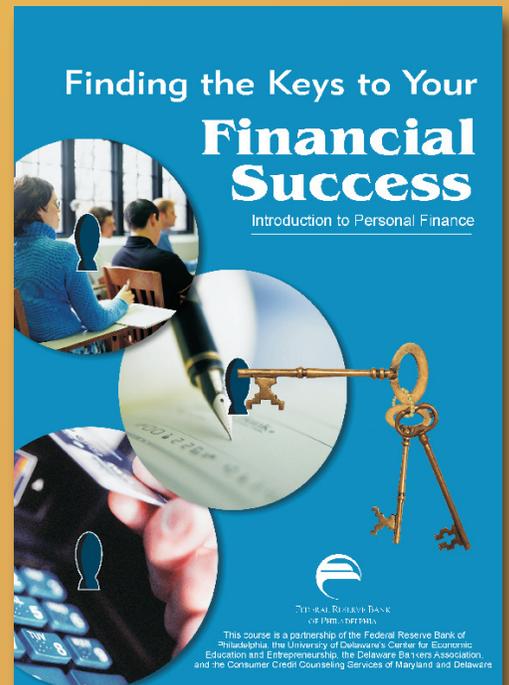
If you want to learn more about these programs, visit [www.philadelphiafed.org/education/teachers/](http://www.philadelphiafed.org/education/teachers/). Register for these programs online at: [www.philadelphiafed.org/education/teachers/](http://www.philadelphiafed.org/education/teachers/) (Note: Registration is online only.)

For more information about this program, Contact: Dr. Andrew T. Hill, Economic Education Advisor  
Federal Reserve Bank of Philadelphia  
[andrew.hill@phil.frb.org](mailto:andrew.hill@phil.frb.org)

*Interested in teaching high school students about*  
**PERSONAL FINANCE?**

“Keys to Financial Success,” a comprehensive high school personal financial education program promoted by the Federal Reserve Bank of Philadelphia, provides teachers with the training, lessons, and materials necessary to teach students how to be financially savvy. The “Keys” course includes five units: Setting Financial Goals and the Decision-Making Process; Career Planning—Investments in Human Capital; Money Management, including credit use; Consumer Skills; and Risk Protection. Schools that commit to offering “Keys” receive extensive materials to teach the course, a one-week summer training program for “Keys” teachers, and pre- and post-testing of “Keys” students. If your school is looking to expand its course offerings or update an existing personal finance course, “Keys” could be a perfect fit for your school’s current curriculum. The 2009 “Keys to Financial Success” teacher-training program will be offered at the Federal Reserve Bank of Philadelphia July 6 to 10, 2009, from 8:00 a.m. to 3:30 p.m. Interested schools should contact Todd Zartman (todd.zartman@phil.frb.org), economic education specialist, at 215-574-6457.

**KEYS TO FINANCIAL SUCCESS  
TEACHER-TRAINING PROGRAM  
JULY 6-10, 2009, 8:00 A.M. – 3:30 P.M.**



**Community Affairs Department**  
Federal Reserve Bank of Philadelphia  
100 N. 6th Street  
Philadelphia, PA 19106-1574

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