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# You Can Bank On It!

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## Economics

### CLASS TIME

Four or five 45- to 50-minute sessions

### OBJECTIVES

Students will thoroughly understand the purpose and functions of the Federal Reserve System and its effect on our nation's economy. They will learn that monetary policies are decisions by the Federal Reserve System that lead to changes in the supply of money and the availability of credit. Changes in the money supply can influence overall levels of spending, employment, and prices by inducing changes in interest rates charged for credit and by affecting the levels of personal and business investment spending.

### NATIONAL STANDARDS

The standards used for these lesson plans refer to the “10 Thematic Standards in Social Studies” developed by the National Council for the Social Studies (NCSS) and the “Voluntary National Content Standards in Economics” developed by the National Council on Economic Education (in partnership with the National Association of Economic Educators and the Foundation for Teaching Economics).

- **Social Studies: Production, Distribution and Consumption**—Describe a range of examples of the various institutions that make up economic systems such as households, business firms, banks, government agencies, labor unions, and corporations.
- **Economics: Monetary and Fiscal Policy**—Students will understand that the Federal Reserve System's monetary policy influences the overall levels of employment, output, and prices.

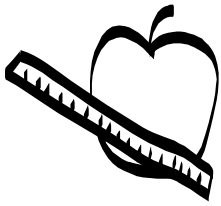
### TERMS AND CONCEPTS

Definitions of these terms and others that relate to the Federal Reserve System can be found at Web sites such as:

- [www.federalreserveeducation.org/fined/glossary.cfm](http://www.federalreserveeducation.org/fined/glossary.cfm)
- [www.frbsf.org/tools/glossary/glossReg.html](http://www.frbsf.org/tools/glossary/glossReg.html)
- [minneapolisfed.org/glossary.cfm](http://minneapolisfed.org/glossary.cfm)

The relevant terms and concepts are:

- The United States Department of the Treasury
- The United States Mint
- The Bureau of Engraving and Printing
- 50 State Quarters® Program
- Federal Reserve Notes
- Circulating currency



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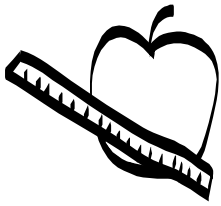
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- Minting vs. printing of money
- Seigniorage (SAYN–yo-rij)
- Federal Reserve System (“the Fed”)
- Interest rates
- Reserves
- Flow of money and credit
- Treasury securities
- Inflation
- Banking system
- Gross Domestic Product (GDP)
- Discount rates
- Business cycle
- Unemployment

## SESSIONS 1 AND 2

### Materials

- 1 quarter from the 50 State Quarters Program
- 1 overhead transparency of the “50 State Quarters® Program Overview” sheet on page 59 (optional)
- 1 one dollar bill
- A reserved computer lab with Internet access (preferable) or texts that simply explain the Federal Reserve System and the United States Mint (optional). Order any of the following publications for free from the New York Federal Reserve Bank at [www.newyorkfed.org/publications/frame1.cfm](http://www.newyorkfed.org/publications/frame1.cfm). Click on “Federal Reserve System” to view the following titles:
  - The Story of the Federal Reserve System
  - The Story of Money
  - The Fed in Brief
  - The Federal Reserve Today
  - The Fed Today
  - You and the Fed
  - Federal Reserve Structure and Functions
  - In Plain English: Making Sense of the Federal Reserve
  - Introducing the FED
- Copies of the “Money in the Bank” Web questionnaire (1 per student)



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## Procedures

1. Begin the class with a discussion of recent changes to our nation's currency. Display a coin minted as part of the 50 State Quarters Program and ask students what they know about these quarters. Refer to the "50 State Quarters® Program Overview" sheet if necessary.
2. Display a dollar bill and ask students if they have seen any changes to our printed money lately, and why those changes may have taken place. Students should mention the recent changes to the twenty dollar bill for security against counterfeiting.
3. Holding up both the quarter and the dollar bill, ask the students which piece of currency they believe is more expensive to produce. Follow this question by asking which of the two will be in circulation longer. Students may discuss these topics, but the answers may not be definitive until later in the class period.
4. Discuss the organizations responsible for the production of our nation's money (The United States Mint and the Bureau of Engraving and Printing—both under the Department of the Treasury). Ask the students how new money gets into circulation. Briefly explain that an organization called the Federal Reserve Board determines the actual amount of money that is placed into circulation.
5. As a class, visit the computer lab.
6. Distribute a "Money in the Bank" Web questionnaire to each student. Allow students to independently read the questionnaire.
7. Explain that the students will research appropriate responses using the resources available online from the United States Department of the Treasury, the United States Mint, the Bureau of Engraving and Printing, and the Federal Reserve Bank. Also, explain that the students will only have two class periods to work on this Web questionnaire, and if they are not able to complete this work, they will be required to do so for homework.

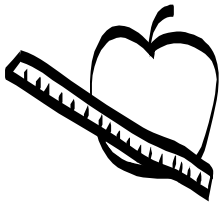
## SESSION 3

### Materials

- Completed copies of the "Money in the Bank" Web questionnaire
- Newsprint (one sheet per group)
- Markers (one package per group)

### Procedures

1. Direct students to take out their "Money in the Bank" Web questionnaires worked on during the previous two sessions. Each student should have his or her own paper.
2. As a class, review the information learned during the previous session by discussing the basic roles that the United States Mint, the Bureau of Engraving and Printing, and the Federal Reserve System play in our country's economic system. Make sure the students can



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properly define the terms introduced in the Web questionnaire.

3. Place students into small groups and provide each group with one sheet of newsprint and one package of markers. Direct the groups to use the information they learned through their Internet investigation to pictorially describe how the Federal Reserve System works.
4. As the groups complete their graphic organizers, direct them to locate another group with whom they can compare their work. The students should discuss any discrepancies between their illustrations (and understandings) of this process.
5. Direct one group to present its graphic organizer to the class. Make any corrections necessary so that the entire class has an accurate understanding of the process.
6. Direct the students to clearly explain the Federal Reserve System to someone else (not in their class) before the next day's session.

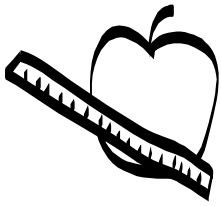
## SESSION 4 (AND 5 IF NECESSARY)

### Materials

- Completed Federal Reserve System graphic organizers
- Numbered slips of paper (equal to the number of groups from the previous session)
- A hat

### Procedures

1. Review the information explored during the previous session by asking students to explain the purpose and functions of the Federal Reserve System, the locations of the Federal Reserve Banks, and the purpose of the Federal Reserve Board.
2. Have students describe their experiences in explaining the Federal Reserve System to a friend or family member. Was this difficult or easy to do? Did the students have any difficulty in conveying this information?
3. Explain that the students will be creating a living model based on the graphic organizers they developed during the previous session. This will allow them to demonstrate their understanding of the role that the Federal Reserve System plays in our nation's economy.
4. Distribute a "Living Model Rubric" to each student and review the requirements as a class.
5. Place the numbered slips of paper into a hat and allow a member from each group to select a number. This will determine the order for the presentations.
6. Each group should take turns organizing the students in the classroom to reflect the operations of the Federal Reserve System. Once the class is organized, the students will explain the roles of each group and how they affect each other.
7. The students who are not presenting should ask questions and share comments regarding the accuracy of the models.



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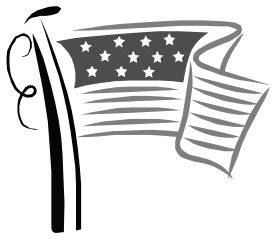
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8. Complete a “Living Model Rubric” for each group.

## EXTENSIONS

- Direct your students to research why the federal government can’t simply print and mint more money in order to deal with the debt without deflating the value of our country’s money. Have students explore how this relates to the FOMC.
- Direct your students to research the Japanese economic problems especially as they relate to failed or underperforming banks. Have the students answer the following questions: How is Japan’s bank crisis contributing to the recession within the country? Does the country have a Federal Reserve System? If they do, how is it different from ours? If they don’t, how might instituting such an organization help Japan’s economy?
- Direct your students to research the current interest rate that the Federal Open Market Committee has set. When did the FOMC set this rate? How many times has the interest rate been raised or lowered in the past two years? What affect has these adjustments had on the economy?
- Direct your students to research the current interest rates that are available for various investment accounts over the past twelve months. Have students answer the following questions:
  - How much would you earn from a savings account? A Certificate of Deposit? A Treasury security?
  - How much interest would be charged currently for the loan on a house? A car?
  - Why are there differences between the rates the banks are giving for savings accounts and those charged on loans? Who gets the difference in money?
- Invite a financial planner or a banker to come into the classroom and explain the reserves kept by banks and the options an investor has within the current economy for saving and investing his or her money.
- Direct your students to research the current numbers regarding the GDP, inflation rate, and unemployment rate. Why would the FOMC be interested in these numbers when discussing its next adjustment of interest rates?



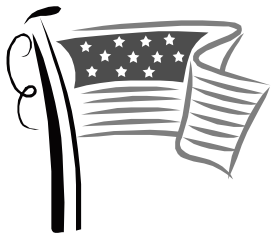
NAME \_\_\_\_\_ DATE \_\_\_\_\_

# Money in the Bank (1)

## Web Questionnaire

Using the United States Mint Web site ([www.usmint.gov](http://www.usmint.gov)), answer the following questions. The Frequently Asked Questions (FAQs) section is a good place to start your search.

1. What is "seigniorage"?
2. How much does it cost to make one of the newly minted quarters?
3. What was the actual seigniorage of a quarter in 2002?
4. How does this minting program affect the federal budget? Does it bring money into the budget or is it a "bill" that the government has to pay?
5. How are coins placed into circulation?
6. How is money retired from circulation? What is the typical age of a paper bill when it is taken out of circulation? The typical age of a coin?



# Money in the Bank (2)

## Web Questionnaire

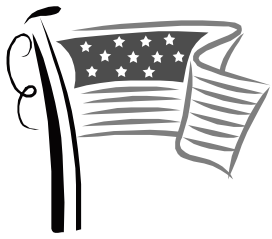
Using the Federal Reserve System's Web site ([www.federalreserve.gov](http://www.federalreserve.gov)), answer the following questions:

7. What is the Federal Reserve System (the Fed) and what is its primary role?

8. What are the functions of the Fed?

9. Define the following terms:

- Monetary policy
- Money supply
- Open Market Operations
- Treasury Securities
- Primary Dealers
- Interest rate
- Gross Domestic Product (GDP)
- Inflation
- Recession

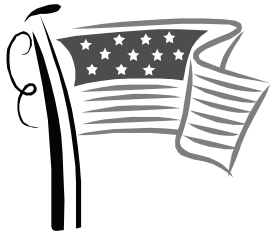


# Money in the Bank (3)

## Web Questionnaire

10. How many Federal Reserve Banks exist? Where are they located?
  
  
  
  
  
  
  
  
  
  
11. What are the responsibilities of the Federal Reserve Banks?
  
  
  
  
  
  
  
  
  
  
12. Does the Fed print money?
  
  
  
  
  
  
  
  
  
  
13. What is the purpose of the Board of Governors and who sits on this board?
  
  
  
  
  
  
  
  
  
  
14. What is the primary role of the Federal Open Market Committee?
  
  
  
  
  
  
  
  
  
  
15. How do the Federal Reserve Banks affect the increase of the money supply in our nation's economy?





# Money in the Bank (4)

## Web Questionnaire

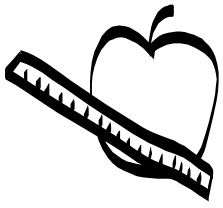
16. Describe what happens to interest rates if there is an excessive amount of money in circulation.

17. Describe what happens to interest rates if there is not enough money in circulation to meet the demands of society.

18. What does the Fed do in order to raise or lower interest rates?

Based on what you've learned, answer the following question:

19. When individuals pull the coins from the 50 State Quarters® Program out of circulation to add to personal collections, how might this affect our country's national debt?



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# Money in the Bank

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## Web Questionnaire—Key (1)

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Using the United States Mint Web site ([www.usmint.gov](http://www.usmint.gov)), answer the following questions:

1. What is “seigniorage”?

Seigniorage is a coin’s value on the open market less the actual cost to produce the coin.

2. How much does it cost to make one of the newly minted quarters?

In 2002, the cost to manufacture a quarter was about 8 cents.

3. What was the actual seigniorage of a quarter in 2002?

The cost to manufacture a quarter was about 8 cents and the purchasing power of a quarter is twenty-five cents, providing a seigniorage of about 17 cents per coin.

4. How does this minting program affect the federal budget? Does it bring money into the budget or is it a “bill” that the government has to pay?

The United States Mint generates a great deal of profit for the Department of the Treasury. Most of this revenue comes from seigniorage. The United States Mint also earns revenues through the sale of numismatic products such as coins, medals, and related products. These revenues often exceed \$1 billion and help to reduce the national debt.

5. How are coins placed in circulation?

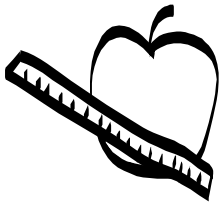
The United States Mint ships its coins to Federal Reserve Banks, which are responsible for putting coins (and paper money) into circulation and also for withdrawing them from circulation when they are worn out.

When a private bank needs coins for its customers, it purchases them from a Federal Reserve Bank. Banks have checking accounts at the Federal Reserve Banks, just as you do at your bank. To buy cash for you, your bank uses special checkbook money called a “reserve balance.”

The coins make their way back to the Federal Reserve Bank at some point because banks often accumulate more cash than they need for day-to-day transactions. Each bank deposits the excess cash into its checking account at a branch of the Federal Reserve Bank until its customers need it.

6. How is money retired from circulation? What is the typical age of a paper bill when it is taken out of circulation? The typical age of a coin?

Coins circulate from the Federal Reserve Bank to the private banks to you and back again until they are worn out—unfit for use. The Federal Reserve replaces those coins by ordering new ones from the United States Mint—and once those coins are minted, a new circulation cycle begins. A paper dollar lasts about 18 months in circulation. A circulating coin generally lasts 30 years or longer.



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# Money in the Bank

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## Web Questionnaire—Key (2)

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Using the Federal Reserve System's Web site ([www.federalreserve.gov/](http://www.federalreserve.gov/)), answer the following questions:

7. What is the Federal Reserve System (the Fed) and what is its primary role?

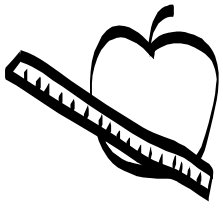
The Federal Reserve System is the central bank of the United States. It regulates and oversees the banking system as well as establishes the monetary policy of the U.S. Its goal is to keep the U.S. economy on a steady path towards low unemployment and steady growth.

8. What are the functions of the Fed?

The Federal Reserve's duties include conducting the nation's monetary policy by influencing money and credit conditions in the economy in pursuit of full employment and stable prices; promoting the stability of the financial system; providing banking services to depository institutions and to the federal government; and ensuring that consumers receive adequate information and fair treatment in their interactions with the banking system.

9. Define the following terms:

- **Monetary policy:** The actions made by the Federal Reserve to influence the availability and cost of money or credit in the U.S. economy in order to promote national economic goals.
- **Money supply:** The total amount of money available for transactions and investment.
- **Open Market Operations:** The practice of buying or selling government securities through an auction process in order to influence the volume of money and credit in our economy.
- **Treasury Securities:** Interest-bearing obligations of the U.S. government issued as a means of borrowing money to meet government expenditures not covered by tax revenues (including Treasury bills, Treasury notes, Treasury bonds, and savings bonds).
- **Primary Dealers:** Primary dealers are banks and securities brokerages that trade in U.S. Government securities with the Federal Reserve System.
- **Interest rate:** The percentage of additional money charged in the repayment of a loan, usually a percentage of the amount lent. Also, the percentage paid on a savings account.
- **Gross Domestic Product (GDP):** The total value of all the goods and services produced within a country's borders
- **Inflation:** A persistent increase in the overall price level, triggered when demand for goods is greater than the available supply or when unemployment is low and workers can command higher salaries.
- **Recession:** A significant decline in a nation's economic activity resulting from a decline in a nation's GDP. Recession usually results in increased unemployment, decreased consumer and business spending, and declining stock prices.



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# Money in the Bank

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## Web Questionnaire—Key (3)

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10. How many Federal Reserve Banks exist? Where are they located?

There are twelve Federal Reserve Districts, each containing a primary Federal Reserve Bank. Many of these banks operate branch offices. The Federal Reserve Banks are located in Boston (MA), New York (NY), Philadelphia (PA), Cleveland (OH), Richmond (VA), Atlanta (GA), Chicago (IL), St. Louis (MO), Minneapolis (MN), Kansas City (MO), Dallas (TX), and San Francisco (CA).

11. What are the responsibilities of the Federal Reserve Banks?

The Federal Reserve Banks hold the cash reserves of depository institutions and make loans to them. They move currency and coin into and out of circulation and collect and process millions of checks each day. They provide checking accounts for the Treasury, issue and redeem government securities, and act in other ways as fiscal agent for the U.S. government. They supervise and examine member banks for safety and soundness. The Reserve Banks also participate in the Fed's primary responsibility: the setting of monetary policy.

12. Does the Fed print money?

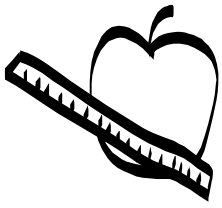
Although the Fed issues Federal Reserve notes (our nation's paper currency) and places them in circulation, the Fed does not print these notes or mint coins. The Bureau of Engraving and Printing (BEP) prints paper currency and the United States Mint produces our nation's coins.

13. What is the purpose of the Board of Governors and who sits on this board?

The Federal Reserve System's Board of Governors is comprised of seven members who are appointed by the President and confirmed by the Senate. The Board of Governors is based in Washington, DC, and works with the twelve regional Reserve Banks and advisory councils to conduct monetary policy, to supervise and regulate certain banking organizations, to operate many of the nation's payment systems, and to administer most of the nation's laws that protect consumer and credit transactions.

14. What is the primary role of the Federal Open Market Committee?

The Federal Open Market Committee consists of the members of the Board of Governors, the president of the New York Federal Reserve Bank, and (on a rotating basis) the presidents of four other Reserve Banks. This committee meets eight times a year to set guidelines for the purchase and sale of government securities in order to regulate the volume of money and credit in our nation's economy.



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# Money in the Bank

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## Web Questionnaire—Key (4)

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15. How do the Federal Reserve Banks affect the increase of the money supply in our nation's economy?

The Fed does not control the supply of currency directly, but by raising or lowering the “federal funds” rate (a short term interest rate), the Fed affects this monetary supply indirectly—most often, by buying and selling Treasury securities.

As put by the Federal Reserve Bank of San Francisco:

Suppose the Fed wants the funds rate to fall. To do this, it buys government securities from a bank. The Fed then pays for the securities by increasing that bank's reserves. As a result, the bank now has more reserves than it wants. So the bank can lend these unwanted reserves to another bank in the federal funds market. Thus, the Fed's open market purchase increases the supply of reserves to the banking system, and the federal funds rate falls.

When the Fed wants the funds rate to rise, it does the reverse—that is, it sells government securities. The Fed receives payment in reserves from banks, which lowers the supply of reserves in the banking system, and the funds rate rises. (The Federal Reserve Bank of San Francisco, “What are the tools of U.S. monetary policy?” *U.S. Monetary Policy: An Introduction*. 2004. 27 July 2004 <<http://www.frbf.org/publications/federalreserve/monetary/tools.html>>.

16. Describe what happens to interest rates if there is an excessive amount of money in circulation.

If the Federal Reserve releases too much money to the banking system, the interest rate will likely decrease since there is more money available for people to borrow.

17. Describe what happens to interest rates if there is not enough money in circulation to meet the demands of society.

If the Federal Reserve releases too little money into the banking system, the interest rate will likely rise since there is less money available for people to borrow.

18. How does the Fed affect the raising or lowering of interest rates?

The Federal Reserve buys and sells Treasury Securities in order to add or remove money from the banking system. This will effect the raising or lowering of interest rates.

Based on what you've learned, answer the following question:

19. When individuals pull the coins from the 50 State Quarters® Program out of circulation to add to personal collections, how might this affect our country's national debt?

As these coins are pulled out of circulation, the demand for new currency rises. As the demand rises, the United States Mint produces greater quantities, creating more revenue (from seignorage), which is used to help pay off the nation's debt.



# Living Model Rubric

GROUP MEMBERS \_\_\_\_\_

DATE \_\_\_\_\_

CATEGORY	CRITERIA				POINTS
	4	3	2	1	
<b>Comprehension</b>	The team clearly understood the topic in depth and presented their information in a convincing manner. The team could respond accurately to all questions asked.	The team clearly understood the topic and presented their information with ease. The team could respond accurately to most of the questions that were asked.	The team seemed to understand the main points of the topic and presented those with ease. The team could respond accurately to some of the questions asked.	The team did not show an adequate understanding of the topic. The team could not respond accurately to the questions asked.	
<b>Accuracy</b>	The team created a well-organized living model that clearly articulates the responsibilities and protocol of the Fed.	The team created a mostly organized living model that articulates the responsibilities and protocol of the Fed.	The team created a semi-organized living model that somewhat articulates the responsibilities and protocol of the Fed.	The team created a disorganized living model that does not articulate the responsibilities and protocol of the Fed.	
<b>Participation</b>	All group members participated and demonstrated equal comprehension of the diagram and living model.	Most group members participated and demonstrated comprehension of the diagram and living model.	Few group members participated and demonstrated comprehension of the diagram and living model.	One group member participated and demonstrated comprehension of the diagram and living model.	
<b>Total Score</b>					_____/12

**Teacher's Comments:**

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