FEDERAL RESERVE BANK OF PHILADELPHIA

What *Does* the Fed Do?

By Andrew T. Hill

A lesson to accompany the "Money in Motion" Exhibit

Introduction

The Federal Reserve System is our nation's central bank. Composed of the 12 regional Federal Reserve Banks and the Board of Governors in Washington, D.C., the Fed serves three crucial functions in our economy. It establishes and implements monetary policy, regulates and supervises banks, and operates the payments system. The Fed serves as a "bankers' bank" and the U.S. government's bank.

Grades

9-12

Concepts

Bank Failure
Bank Panic
Bank Reserves
Bank Run
Discount Rate
Federal Reserve System
Fractional Reserve Banking System
Monetary Policy
Open Market Operations
Reserve Requirement

Content Standards

Voluntary National Content Standards in Economics—Content Standards 10 and 20
Delaware—Economics Standards: Standard 2
Pennsylvania—Academic Standards in Economics: 6.2.9 and 6.2.12
New Jersey—Social Studies Standards: Standard 6.5

Pre-Visit

Lesson Description

Students participate in a banking activity to learn more about the fractional reserve banking system. Students learn about the three basic functions of the Federal Reserve System and reflect on the validity of a dozen statements about the Federal Reserve.

Objectives

Students will:

1. Describe a fractional reserve banking system.

2. Explain what bank panics and bank runs are and why they are less likely today than at the beginning of the 20th century.

3. List the three major functions of the Federal Reserve System.

Time Required

60 minutes

Materials

A roll of 40 nickels
Activity 1, 5 copies, printed on white paper and cut apart
Activity 2, fill in date, make 10 copies on colored paper, and cut apart
Activity 3, 3 copies cut apart
Activity 4, one per student
Visual 1, one transparency and one copy for each student
Visual 2, one transparency
Overhead projector pen
Shoe box or other container to store deposits
Paperclips

Procedure

1. Explain to the students that over the next few days they are going to learn more about the purposes and functions of the Federal Reserve System. Tell them that the Federal Reserve is our nation's central bank. Explain that they will be visiting the Federal Reserve Bank of Philadelphia's "Money in Motion" exhibit.

2. Discuss the following:

   a. Why do people use banks? (*Banks provide financial services to individuals, businesses, and state and local governments. These services include checking accounts, savings accounts, certificates of deposit, loans, safe deposit boxes, ATMs, etc.*)

   b. Why do people keep their money in banks? (*It's more secure in a bank than it is sitting in a box at home. If you keep money in a checking account at a bank, you can write checks and initiate electronic payments against the balances in the account. Banks also pay interest on many of the accounts they offer.*)

   c. How do banks make money? (*Banks make money by taking in deposits and making loans. They charge a higher interest rate on their loans than they pay on* *the deposits they take in. Banks also make money by charging fees for the services they provide to their customers.*)

3. Tell students that you are going to open a classroom bank. This bank will be unique because it will accept only deposits and make loans in dollar bills. Tell students that you, the bank manager, will be paying 5 percent interest on all deposits. Have the students take out any dollar bills they have in their pocket. Choose or have the class elect a Recorder for the bank. Remind students that the classroom bank will accept only deposits of dollar bills—no other denomination of notes and no coins will be accepted.

4. Explain to the students that they will get all of their dollars back before the end of the class and that you will pay a nickel for each dollar deposited in the bank during the class period. Tell the students that when a bank offers 5 percent interest, it is usually referring to an annual rate of interest of 5 percent, but that you will assume this class period represents a full year. Anyone who deposits a dollar in the bank at the beginning of the class will withdraw the dollar at the end of the class period and get one nickel (5 percent) in interest paid by you, the bank manager.

5. Display Visual 1. Distribute a copy of Visual 1 to each student. Instruct the Recorder to record the names of the depositors and the amount they deposit in the bank on Visual 1 as each person gives you a deposit. Ask the students to follow along, recording the deposits on their copy of Visual 1.

6. Ask the students who wish to deposit dollar bills in the new bank to raise their hands. Distribute one deposit slip from Activity 1 to the first 12 students who wish to deposit dollar bills in the new bank. If fewer than 12 students want to deposit dollar bills, that's okay, but encourage at least a total of $10 in deposits. Limit the total number of dollar bills each student is allowed to deposit to no more than three dollar bills. Ask those students with deposit slips to complete them and line up in front of you in preparation to make their deposits.

7. Take the deposit from the first student. Paperclip the money to the deposit slip. Place the money and deposit slip in the shoe box or other container you are using to store deposits. Announce the name of the student and the amount she is depositing. Watch as the Recorder enters the name of the depositor and the amount she deposited on Visual 1. Instruct the students to also enter the name of the first depositor and the amount she has deposited on their copy of Visual 1. Complete and issue a deposit receipt from Activity 2 to the depositor. Once the deposit transaction is completed, ask the student to return to her seat. Continue accepting deposits and issuing deposit receipts until all students who wish to deposit dollar bills have made their transactions or 12 students have deposited their money, whichever comes first. Put the box containing the dollar bills away in a safe place.

8. Have the students add up the total deposits. Ask the Recorder to enter the total deposits on Visual 1.

9. Ask the students whether any of them would like to borrow money from the bank. Distribute one loan application from Activity 3 to the first 12 students who wish to borrow dollar bills from the bank. Explain that each borrower may apply for one, two, or three dollars. Offer the loans at 0 percent interest. While fewer than 12 students may wish to borrow from the bank, encourage at least $10 total to be borrowed from the bank. After the students who wish to borrow money have completed their loan applications, ask them to line up in front of you.

10. Explain to the students that banks review the creditworthiness of borrowers before making loans, but that in this classroom example, you are going to assume that a credit check has been conducted and that all of the students who apply will be getting loans. Explain that instead of giving cash to each approved borrower, you will open a bank account for each borrower and put the loaned money in the account. You will issue each borrower a receipt for money deposited in the new bank account.

11. Take the loan application from the first student. Approve the loan application of the first student. Announce the name of the student and the amount he is borrowing. Instruct the Recorder to enter the name of the borrower and the amount he borrowed on Visual 1. Tell the students to also enter the name of the first borrower and the amount he has borrowed on their copy of Visual 1. Complete and issue a deposit receipt from Activity 2 in the amount of the loan to the borrower. Once the loan transaction is completed, ask the student to return to his seat. Continue accepting loan applications, making loans, and issuing deposit receipts until all students who wish to borrow dollar bills have made their transactions or 12 students have deposited their money or the value of the total loans equals the value of total deposits, whichever comes first.

12. Have the students add up the number of dollar bills loaned out by the bank. Ask the Recorder to enter the total loans on Visual 1.

13. Discuss the following:

    a. How many people have deposit receipts? (*Answers will vary.*)

    b. What is the total value of those deposit receipts? (*Amount will be the total of deposits and loans in the bank.*)

    c. Has the bank loaned out all of the money it accepted in deposits? (*Answers will vary.*)

    d. Could all of the people who have deposit receipts withdraw the money in cash in their accounts? (*No.*)

    e. What would happen if all of the people that have deposit receipts came to the bank on the same day to withdraw money in cash? (*Not everyone would be able to get money out. The bank would have to make decisions about which depositors got their money out, or the bank would have to stop honoring withdrawal requests.*)

14. Explain the following:

- The United States, and most of the world, has a **fractional reserve banking system**.

- **Bank reserves** are the amount of deposits not loaned out by banks. A bank's reserves can be calculated by subtracting a bank's total loans from its total deposits. Ask the students to calculate Classroom Bank's current reserves. (*Answers will vary*.) Write this number on the board. If the total reserves are 0, ask the students why this would cause a problem. (*If Classroom Bank's reserves are 0, then if any of the depositors come in to make a withdrawal, there would be no cash on hand to honor the withdrawal request.*)

- In a fractional reserve banking system, banks take in deposits and lend most of the money they take in. People who borrow money from banks use that money to buy houses or cars, start businesses, make home improvements, go to college, etc.

- Unlike in the Classroom Bank, the money loaned out by real banks does not sit in bank accounts—it gets spent almost immediately by the borrowers. Only a small fraction of the amount deposited in banks is kept on reserve, either in electronic accounts at the Federal Reserve or in vault cash. The result is that not everyone can get their money out of the bank in cash on the same day.

- The Federal Reserve requires most banks to hold a portion, up to 10 percent, of their deposits in reserve. These are called **required reserves**. Ask the students whether Classroom Bank is currently meeting a 10 percent reserve requirement. (*Answers will vary*.)

- Throughout history, there have been episodes where too many people tried to take their money out of their banks at the same time. During such episodes, banks usually ran out of cash and therefore couldn't honor withdrawal requests, and many banks went bankrupt. When a bank goes bankrupt, it's called a **bank failure**. When many depositors run into a bank at the same time to get their money out, we call that a **bank run.** When a bank run that begins at one bank spreads to other banks and causes people to generally distrust banks, we call that a **bank panic.**

15. Ask the students who deposited money in Classroom Bank the following:

    Suppose you learned that the bank owner and manager was planning to leave the country and move permanently to Tahiti. What would you do? (*Most students will say that they would want to withdraw their money immediately from the Classroom Bank, since they have no guarantee that you aren't going to take their money with you when you move to Tahiti.*)

16. Explain to the students that they are now going to complete another activity to prepare for their visit to the Federal Reserve Bank of Philadelphia's "Money in Motion" exhibit. Distribute a copy of Activity 4 to each student. Ask the students to put their names at the top of the activity. Ask the students to circle, using a pen, "myth" or "reality" in the second column of the table on Activity 4 depending on whether they think the statement in the first column is a myth about the Federal Reserve or a true characterization of some aspect of the Federal Reserve's structure, purposes, or functions. Give the students time to complete the activity. Collect the papers from the students. Explain to the students that during their visit to the "Money in Motion" exhibit they will have the opportunity to find out whether each of the statements is a myth about the Fed or a reality.

17. Display Visual 2. Explain that these are three main functions of the Federal Reserve System. Explain each function:

    - **Establish and implement monetary policy:** Using the tools of monetary policy, the Federal Reserve can affect the volume of money and credit available in the economy and the price of credit—interest rates. In this way, the Federal Reserve can influence the general level of prices, employment, and output.

    - **Operate the nation's payments system:** The 12 Federal Reserve Banks provide banking services to depository institutions; they maintain reserve and clearing accounts to provide various payment services, including collecting checks, electronically transferring funds, and storing, distributing, receiving, and processing currency and coin. For the federal government, the Reserve Banks maintain the Treasury Department's transaction account, pay Treasury checks, process electronic payments, and issue, transfer, and redeem U.S. government securities.

    - **Supervise and regulate the banking system:** The Federal Reserve System has supervisory and regulatory authority over a wide range of financial institutions and activities. It works with other federal and state authorities to ensure the safety and soundness of financial institutions, stability in financial markets, and fair and equitable treatment of consumers in their financial transactions.

18. Explain to the students that through its regulatory and supervisory role, the Federal Reserve works to ensure that bank runs and panics are less likely to occur now than at the beginning of the last century. There are a number of ways in which the Fed reduces the risks inherent in a fractional reserve banking system:

    - By writing bank regulations and examining bank operations, the Fed seeks to ensure that banks are operating in a safe and sound fashion so that when people put money in their bank, they will be confident that the risks of a bank failure are slim.

    - If a bank experiences a "run," the Federal Reserve is usually willing to lend to banks so that they can honor withdrawal requests and defuse the run and avert a panic.

- To further reduce risk in the banking system, the Federal Reserve ensures that banks hold at least their required reserves.

19. Explain that, in addition to the efforts of the Federal Reserve, the Federal Deposit Insurance Corporation (FDIC), founded in 1934, insures bank deposits for each account holder up to $100,000. Most banks in the United States are members of the FDIC, and their customers are covered up to the $100,000 limit by the FDIC's deposit insurance. FDIC insurance makes people less likely to rush to the bank to withdraw their money for fear of a bank panic or bank failure. If their bank were to fail, they would be reimbursed for the full amount of money in their account up to $100,000.

20. Explain that banks in the United States are very safe places to keep money. Our nation's fractional reserve bank system provides for a banking environment where credit is readily available. Since businesses usually have to borrow money in order to expand business operations and individuals usually have to borrow to buy big ticket items, readily available credit is an important part of the country's economy.

21. Using the deposit record on Visual 1 for reference, return each depositor's money and pay each one a nickel for each dollar bill they deposited in Classroom Bank.

Closure

1. What is fractional reserve banking? (*Fractional reserve banking is the predominant banking system in the world. Banks take in deposits and lend a large fraction of those deposits. Banks make money by charging a higher interest rate on the money they lend than the interest rate they pay their depositors. Banks also make money by charging fees for the services they provide to their customers.*)

2. What are bank panics and bank runs, and why are they less likely today than at the beginning of the 20th century? (*Bank runs occur when more depositors come to a bank to withdraw their money as cash than the bank can pay. Bank panics occur when people become fearful of banks and runs occur at multiple banks as people try to leave the banking system. The Federal Reserve's regulation and supervision of banks helps to ensure that banks in the United States are safe. The Federal Reserve's willingness to lend to banks that face a run also helps. The Federal Reserve requires banks to hold a fraction of their deposits in reserve. Finally, FDIC deposit insurance makes people less likely to rush to the bank to withdraw all their money because they know that their deposits in each FDIC-member bank are insured up to $100,000.*)

3. What are the three major functions of the Federal Reserve? (*The Federal Reserve establishes and implements monetary policy, regulates and supervises banks, and operates the nation's payment system.*)

Assessment

Ask the students to write three paragraphs describing what they think a "run" on a bank would look like, why a bank run is likely to be very disruptive to anyone who has money in the bank and the economy as a whole, and why bank runs are relatively unlikely today.

At the Exhibit

Lesson Description
Students complete four activities at the “Money in Motion” exhibit to learn more about the purposes and functions of the Federal Reserve, the geographical distribution of Federal Reserve offices, and the history of central banking in the United States.

Time Required
60 minutes

Materials
Activity 4, one per student as begun in the classroom
Activity 5, one per student
Activity 6, one per student
Activity 7, one per student
“Money in Motion” Navigational Guide, one per student and one per chaperone (available at the exhibit and online at www.philadelphiafed.org/money_in_motion/tour.html)
Highlighters, one per student

Procedure

1. Divide students into groups of 4-5. Return each student’s copy of Activity 4. Distribute copies of Activities 5, 6, and 7 to each student. Assign one-third of the groups to begin work at the “Then & Now” history wall. They are to begin work on Activity 6 at the history wall. Assign another third of the groups to the “Fed Family” station. Instruct these groups to begin work on Activities 5 and 7. The remaining third should begin work on finding out whether the statements on Activity 4 are myths or realities. Once groups complete the initial activity, they can move on to the next station and complete the next activity.

2. Tell students that they must locate the information in the exhibit and complete all four activities. Each student must have a completed copy of each activity. Point out that the station where the information is located appears either in parentheses after the statement or in the directions to the activity. When the students have completed all four of the activities, they may investigate other stations in the exhibit.

3. Distribute a copy of the “Money in Motion” Navigational Guide to each student and chaperone. Assign a chaperone to several groups. Have chaperones walk groups through the exhibit, pointing out the various stations before the groups begin to work on the activities. Have the chaperones limit the number of students at any one station.

4. Remind students that they are to follow the rules below while in the exhibit. The Federal Reserve Bank of Philadelphia reserves the right to ask individuals who are not behaving properly to leave.
   a. Do not run.
   b. Do not bring food into the exhibit.
   c. Do not take photographs or movies in the exhibit.

d. Use conversational voices.
e. Do not shove or push others.
f. Be respectful of the exhibit stations (for example, do not slam buttons, do not repeatedly push buttons at the various stations, and do not climb on the exhibit stations).

5. Allow time for the students to complete the activities. Collect all copies of Activities 4, 5, 6, and 7 from the students before leaving the exhibit.

Post-Visit

Lesson Description
Students share their answers to the activities they completed at the Federal Reserve Bank of Philadelphia's "Money in Motion" exhibit. They investigate the tools of monetary policy and review the basic functions of the Federal Reserve System.

Objectives
Students will:

1. List the three tools of monetary policy and identify which of the three tools is used most frequently by the Federal Reserve to affect the money supply and availability of credit in the economy.

2. Explain the basics of how open market operations affect the money supply.

3. Characterize the structure and geographical distribution of the Federal Reserve System.

Time Required
60 minutes

Materials
Students' completed copies of Activities 4, 5, 6, and 7
Transparencies of Activities 4 and 7
Activity 8, 10 copies, preferably in color, cut apart
Visual 3, preferably in color
Visual 4, one transparency and one copy for each student
Visual 5

Procedure

1. Have students share their answers to the At-the-Exhibit portion of Activity 4. As students share their answers to the myth versus reality activity, record the correct answers on the transparency of the activity. Correct answers to Activity 4:

STATEMENT	MYTH/REALITY	CORRECTED STATEMENT
1	**REALITY**	
2	**MYTH**	Banks and the U.S. government can have accounts at Federal Reserve Banks.
3	**MYTH**	The Federal Reserve reports to Congress, but carries out its responsibilities independently.
4	**MYTH**	The Federal Reserve is funded from income on its portfolio of U.S. government securities and fees for services to financial institutions.
5	**MYTH**	The Board of Governors of the Federal Reserve System is appointed by the President of the United States and confirmed by the Senate. A Governor's term is 14 years, with appointments staggered to ensure Board continuity.
6	**MYTH**	The Federal Open Market Committee (FOMC) uses open market operations as the primary tool of monetary policy.
7	**REALITY**	
8	**MYTH**	An average $1 bill is in circulation for less than two years.
9	**REALITY**	
10	**REALITY**	
11	**REALITY**	
12	**MYTH**	The Federal Reserve evaluates whether banks are at risk by on-site examinations and inspections, off-site monitoring and analysis, and continuous supervision of large, complex banking organizations.

2. Display Visual 3. Have students check their work on the map of the Federal Reserve System on Activity 5.

3. Discuss the following:

   a. What is the centralized component of the Federal Reserve System, and where is it located? (*Board of Governors, Washington, D.C.*)

   b. Which Federal Reserve Banks have no Branches? (*Philadelphia and Boston.*)

   c. All but Philadelphia and Boston opened branches in years that followed the opening of the Reserve Banks in 1914. Why did Reserve Banks open Branches?

(*Reserve Banks opened Branches in order to better serve communities with check and cash services in their often geographically vast Districts.*)

d. Why are the Districts in the western part of the country larger geographically than the Districts in the eastern part of the country? (*In 1914, when the Federal Reserve Banks opened, each Federal Reserve Bank served a roughly equal portion of the U.S. population, banking, and commerce. Therefore, District boundaries were drawn based on population size rather than geographical size. As population densities across the country changed, Reserve Banks opened Branches to better serve the growing communities in many parts of their Districts.*)

4. Display Visual 4 and distribute one copy to each student. Have students check their work on the History of Central Banking Timeline on Activity 6.

5. Discuss the following:

a. How many central banks has the United States had since its founding in 1776? (*Three—the first Bank of the United States, the second Bank of the United States, and the Federal Reserve System.*) Emphasize that while the first and second Banks of the United States did not conduct what we would consider modern central banking activities, they did exert considerable control over the U.S. economy and operated as the U.S. government's bank.

b. From what you read on the "Then and Now" history wall, what was the United States' economic history like between the closing of the second Bank of the United States in 1836 and the founding of the Federal Reserve System in 1913? (*The period between 1836 and 1913 was characterized by five major bank panics. The nation faced considerable economic hardship as a result of these panics. That hardship could have been avoided, or at least mitigated, if there had been a central bank like the First Bank, the Second Bank, or Federal Reserve System.*)

6. Have students share their answers to Activity 7. As students share their answers, record the correct answers on your visual of Activity 7. Answers to the Structure of the Federal Reserve System activity:

The Federal Reserve Bank of Philadelphia is one of the 12 regional Reserve Banks in the United States that, along with the Board of Governors in Washington, D.C., make up the Federal Reserve System—the nation's central bank. The Federal Reserve System was established by Congress in 1913. The Fed reports to Congress but carries out its responsibilities independently. The Fed typically remits 90 percent of its earnings to the U.S. Treasury. To ensure a sound financial system and a healthy economy, the Fed conducts monetary policy, supervises and regulates financial institutions, maintains the payments system, and serves as the lender of last resort in a financial crisis.

The Board of Governors, led by its Chairman, is a federal government agency and the centralized component of the Fed. Located in Washington, D.C., the Federal Reserve

Board consists of <u>seven</u> members—called Governors—who are appointed by the President of the United States and confirmed by the Senate. A Governor's term is <u>14</u> years, with appointments staggered to ensure Board continuity. The terms of the Chairman and Vice Chairman are <u>four</u> years.

The <u>Federal Open Market Committee</u> (FOMC) is the Federal Reserve's chief monetary policymaking body. The FOMC's decisions ultimately affect <u>interest rates</u>. The FOMC's voting membership includes the <u>seven</u> members of the Board of Governors, the president of the <u>New York</u> Reserve Bank, and <u>four</u> of the other <u>11</u> Reserve Bank presidents, who serve in an annual rotation. But regardless of their voting status, all Reserve Bank presidents offer views on <u>economic conditions</u> in their regions and the nation at every FOMC meeting. The Board's <u>Chairman</u> also serves as FOMC Chairman, while the <u>New York</u> Fed president serves as FOMC <u>Vice Chairman</u>.

7. Display Visual 5. Explain to students that:

- Monetary policy involves the Fed is changing the money supply in order to affect interest rates with the goal of price stability, full employment, and maximum sustainable economic growth.

- The Fed has at its disposal three tools of monetary policy:

    a. **Reserve Requirements—**The Fed can increase the reserve requirement and thereby reduce the money supply as banks are forced to hold more reserves and lend less. Likewise, the Fed can decrease the reserve requirement and increase the money supply as banks are able to loan more. However, changes in the reserve requirement are made very infrequently and represent an extreme measure for affecting the money supply. Early in the Fed's history, reserve requirements were fixed by law. The Thomas amendment to the Agricultural Adjustment Act of 1933 first gave the Fed power to change reserve requirements. That power was made permanent by the Banking Act of 1935.

    b. **Discount Rate—**The discount rate, the rate at which banks can borrow from the Federal Reserve, can be increased in order to reduce the money supply and decreased in order to increase the money supply. Banks usually don't borrow much from the Federal Reserve. Therefore, a change in the discount rate has a relatively small effect on the money supply. Early in the Fed's history, changes in the discount rate were the primary monetary policy tool available to the Fed.

    c. **Open Market Operations—**Open market operations, the Fed's purchases and sales of U.S. Treasury securities, are the primary tool of monetary policy. Open market operations are carried out almost every business day by the Trading Desk at the Federal Reserve Bank of New York. The New York Reserve Bank carries out these operations on behalf of the entire Federal Reserve System. The Trading Desk is actually a staff of people who work at the Federal Reserve Bank of New York and who buy and sell government securities in order to change the money supply and get the federal funds rate, the interest rate that banks charge each other for short-term, usually overnight loans, as close as possible to the target for that interest rate set by the FOMC.

8. Explain to the students that they are going to participate in a basic activity to see how the Federal Reserve uses open market operations to change the money supply.

9. Divide the cards from Activity 8 into three piles: checking account balance, currency, and U.S. Treasury bonds.

10. Divide the class into thirds. Give each student in the first group a $10,000 U.S. Treasury bond. Give each student in the second group $10,000 in currency. Give each student in the third group $10,000 in a checking account.

11. Explain to the class that all of the students with $10,000 U.S. Treasury bonds have each lent the U.S. government $10,000 and that the piece of paper they have is an I.O.U. from the government, acknowledging the debt. Explain that the piece of paper is not money because it cannot be used as a medium of exchange.

12. Explain to the class that all of the students with $10,000 in a checking account or $10,000 in currency have money; only the forms in which they hold the money differ. Ask all of the students with money—checking account balances and currency—to stand in the front, right corner of the classroom. Ask the students with checking account balances to count off. Ask the students with currency to count off. Write "Money Supply" on the board. Add the total number of students with currency and checking accounts and multiply by $10,000. Write this amount on the board under "Money Supply." Ask those students with U.S. Treasury bonds to stand in the front, left of the room.

13. Select four students with bonds and four students with currency. Tell the four students with bonds to sell those bonds to the four students with currency. Ask the class if there has been any change in the amount of money in the classroom economy. (*No. There has only been an exchange of bonds and currency.*) Have the students go to their new corners after the transaction is complete.

14. Tell the class that you are the Federal Reserve System. Select five students with U.S. Treasury bonds. Tell them they need money and must sell their bonds. The Fed has decided to buy the bonds. Give each student $10,000 in currency in exchange for the $10,000 bond. This exchange is a simple demonstration of an open market purchase. Instruct the five students to join their classmates who have currency. Count the total number of students with currency and checking account balances after the transaction. Put a line through the old money supply number on the board and write the new size of the money supply (number of students with currency and checking account balances times $10,000).

15. Discuss the following:

a. What happened to the amount of money in the classroom as a result of this open market purchase? (*It increased by $50,000.*)

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

c. Where did the Federal Reserve get the money? (*The Fed created the money.*)

16. Now demonstrate an open market sale. Select six students with currency. Tell them that they would like to purchase U.S. government securities and that you, the Fed, are willing to sell them some securities from your portfolio. Give each student a $10,000 U.S. Treasury bond in exchange for $10,000 in currency. Count the total number of students with currency and checking account balances after the transaction. Put a line through the last money supply number on the board and write the new size of the money supply. Ask the students what happened to the money supply in the classroom economy as a result of this open market sale. (*It decreased by $60,000.*)

Closure

1. What are the three tools of monetary policy? (*Reserve requirements, discount rate, and open market operations.*)

2. Which tool of monetary policy is used most frequently? (*Open market operations.*)

3. How do open market operations affect the money supply? (*Open market purchases—the Fed's purchases of U.S. government securities—result in increases in the money supply. Open market sales—the Fed's sale of U.S. government securities—result in decreases in the money supply.*)

4. Characterize the structure and geographical distribution of the Federal Reserve System. (*The Federal Reserve System is composed of the 12 regional Reserve Banks and their Branches and the Board of Governors in Washington, D.C. The Federal Open Market Committee [FOMC], the Fed's chief monetary policymaking body, is composed of 12 voting members: the seven members of the Board of Governors, the president of the Federal Reserve Bank of New York, and four other Reserve Bank presidents, on a rotating basis. The Federal Reserve Banks are located across the country. Many of the Reserve Banks have Branches to better serve communities in their Districts.*)

Assessment

1. Ask the students to complete the following:

   You recently read an op-ed column in a local newspaper. The author of the op-ed column argued that the Federal Reserve System should close locations across the country because telecommunications have made those locations unnecessary for serving communities with Federal Reserve services. Write a letter to the editor agreeing or disagreeing with the op-ed column.

2. Ask the students to complete the following:

Draw a comic strip to illustrate an open market purchase. The comic strip must have at least five panes.

Visual 1
Deposit/Loan Record

DEPOSITS			
Name	Amount	Name	Amount
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
Total Deposits			$ .00

LOANS			
Name	Amount	Name	Amount
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
	$ .00		$ .00
Total Loans			$ .00

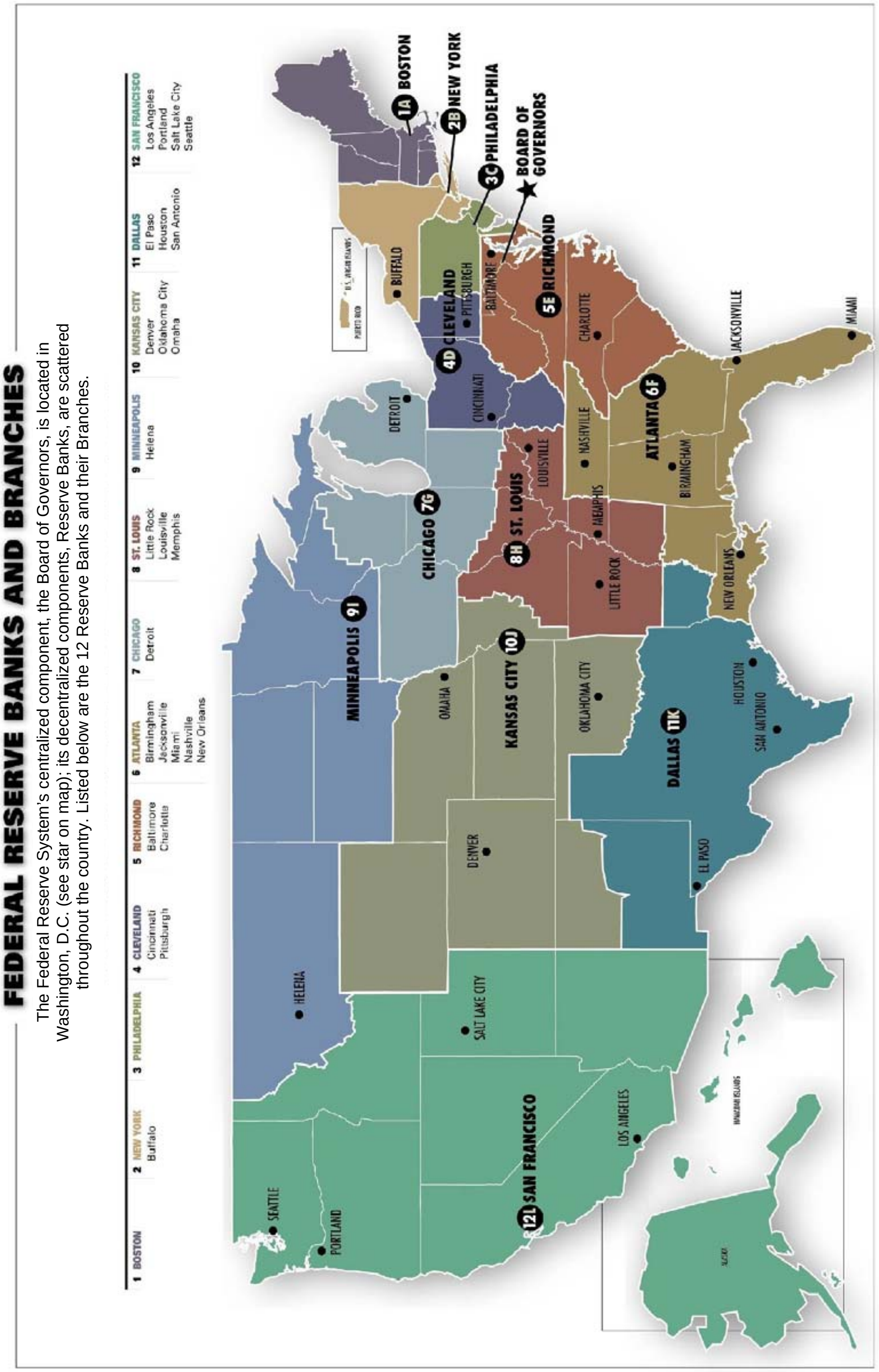
Functions of the Federal Reserve System

A. Establish and implement monetary policy

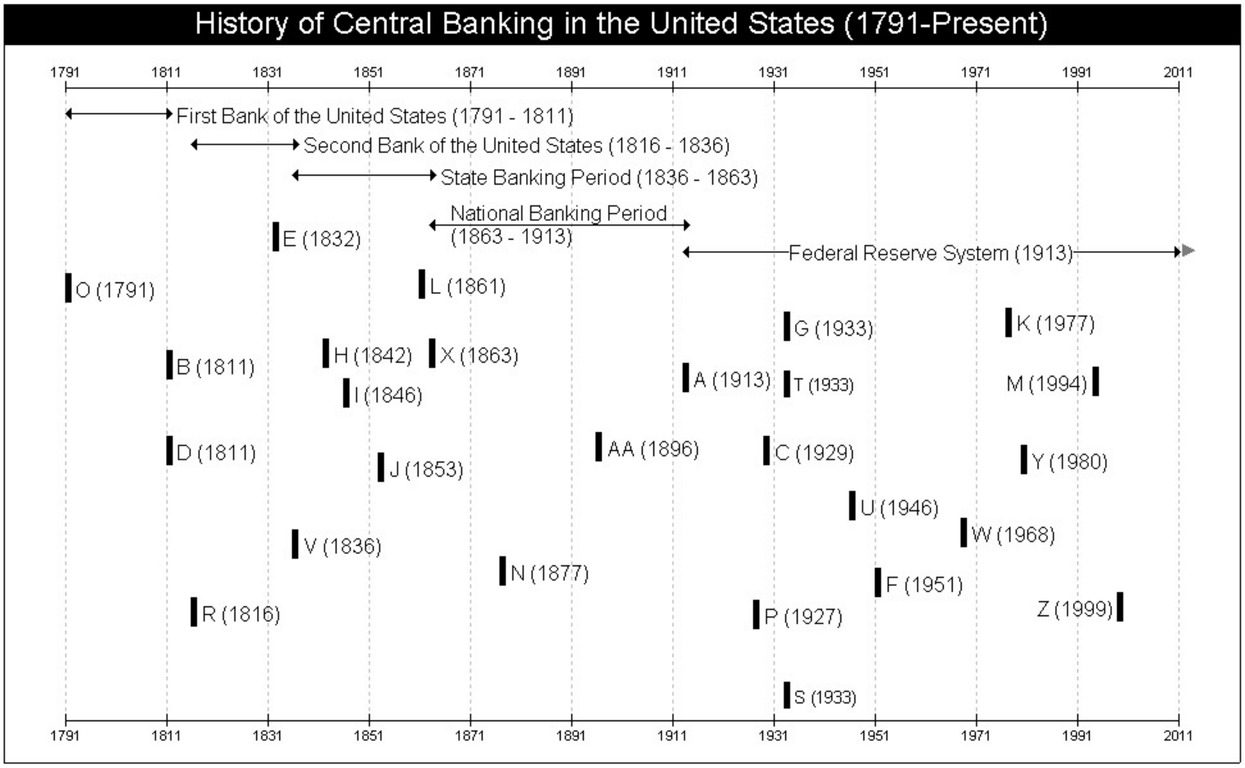
B. Regulate and supervise banks

C. Operate the nation’s payments system

Visual 3
Map of the Federal Reserve System



Visual 4
Timeline of Central Banking in the United States



LEGEND

A. President Woodrow Wilson signs the Federal Reserve Act into law.
B. The number of state-chartered banks in the United States grows to 88.
C. The stock market crashes.
D. The first Bank of the United States' charter comes up for renewal and it is rejected by a single vote in Congress.
E. Andrew Jackson vetoes a bill for the early re-charter of the second Bank of the United States.
F. The Treasury-Fed Accord is issued.
G. President Roosevelt declares a "bank holiday."
H. A $1 note from a Tennessee bank is exchanged for 80 cents in Philadelphia, while a $1 note from an Illinois bank is exchanged for only 50 cents.
I. Congress establishes an Independent Treasury System to manage the government's funds.
J. Banks in New York City set up the New York Clearinghouse Association to exchange checks and settle accounts.
K. Congress passes the Community Reinvestment Act
L. Congress authorizes the first issue of paper money by the government since the Revolution.
M. Congress passes the Riegle-Neal Interstate Banking and Branching Efficiency Act, which permits interstate banking and branching.
N. All national banks' notes begin to be printed by the Treasury's Bureau of Engraving and Printing, which still prints our paper currency today.
O. The first Bank of the United States opens.
P. Congress gives the Fed permanence.
Q. Andrew Jackson becomes president.
R. The second Bank of the United States is founded.
S. Congress separates banking and securities firms in the Glass-Steagall Act.
T. President Roosevelt takes the United States off the gold standard.
U. Congress passes legislation defining the goals of economic policy.
V. The second Bank of the United States' charter runs out.
W. Congress passes the Consumer Credit Protection Act.
X. Congress passes the National Bank Act.
Y. The Depository Institutions Deregulation and Monetary Control Act phases out restrictions on banks' ability to pay interest on deposits.
Z. The Gramm-Leach-Bliley Act repeals the prohibition against combining commercial banking, investment banking, and many insurance activities in the same organization.
AA. William Jennings Bryan runs a presidential campaign against a gold standard, declaring America will not be "crucified on a cross of gold."

Visual 5
Tools of Monetary Policy

Tools of Monetary Policy

- Reserve Requirements

- Discount Rate

- Open Market Operations

Activity 1
Deposit Tickets

DEPOSIT TICKET

Date: ____________________, 20____

Name: ____________________________

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

⑆:0110000101⑆: 09876543211⑈

Enter the number of $1.00 bills you are depositing into your account in the space below.

______ $1.00 bills

Total deposit $____ . 00

DEPOSIT TICKET

Date: ____________________, 20____

Name: ____________________________

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

⑆:0110000101⑆: 09876543211⑈

Enter the number of $1.00 bills you are depositing into your account in the space below.

______ $1.00 bills

Total deposit $____ . 00

DEPOSIT TICKET

Date: ____________________, 20____

Name: ____________________________

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

⑆:0110000101⑆: 09876543211⑈

Enter the number of $1.00 bills you are depositing into your account in the space below.

______ $1.00 bills

Total deposit $____ . 00

Activity 2
Deposit Receipts

DEPOSIT RECEIPT

Date: ____________________, 20____

Name: ___________________________

_____ $1.00 bill(s) deposited in this bank on this day.

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

DEPOSIT RECEIPT

Date: ____________________, 20____

Name: ___________________________

_____ $1.00 bill(s) deposited in this bank on this day.

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

DEPOSIT RECEIPT

Date: ____________________, 20____

Name: ___________________________

_____ $1.00 bill(s) deposited in this bank on this day.

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

Activity 3
Loan Applications

LOAN APPLICATION

Date: ____________________, 20____

Name: ____________________________

I am applying for a loan of:
1 2 3 (*circle one*)
dollar bills from this bank.

Signature: ____________________________

FOR BANK USE ONLY
Loan Approved?
☐ Yes ☐ No

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

LOAN APPLICATION

Date: ____________________, 20____

Name: ____________________________

I am applying for a loan of:
1 2 3 (*circle one*)
dollar bills from this bank.

Signature: ____________________________

FOR BANK USE ONLY
Loan Approved?
☐ Yes ☐ No

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

LOAN APPLICATION

Date: ____________________, 20____

Name: ____________________________

I am applying for a loan of:
1 2 3 (*circle one*)
dollar bills from this bank.

Signature: ____________________________

FOR BANK USE ONLY
Loan Approved?
☐ Yes ☐ No

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

LOAN APPLICATION

Date: ____________________, 20____

Name: ____________________________

I am applying for a loan of:
1 2 3 (*circle one*)
dollar bills from this bank.

Signature: ____________________________

FOR BANK USE ONLY
Loan Approved?
☐ Yes ☐ No

CLASSROOM BANK
123 Market Street
Anytown, USA 12345

Activity 4
Myth Versus Reality

PRE-VISIT: Using a pen, circle “MYTH” if you believe that the statement in the first column is a myth about the Federal Reserve. Circle “REALITY” if you believe that the statement correctly reflects some aspect of the Federal Reserve.

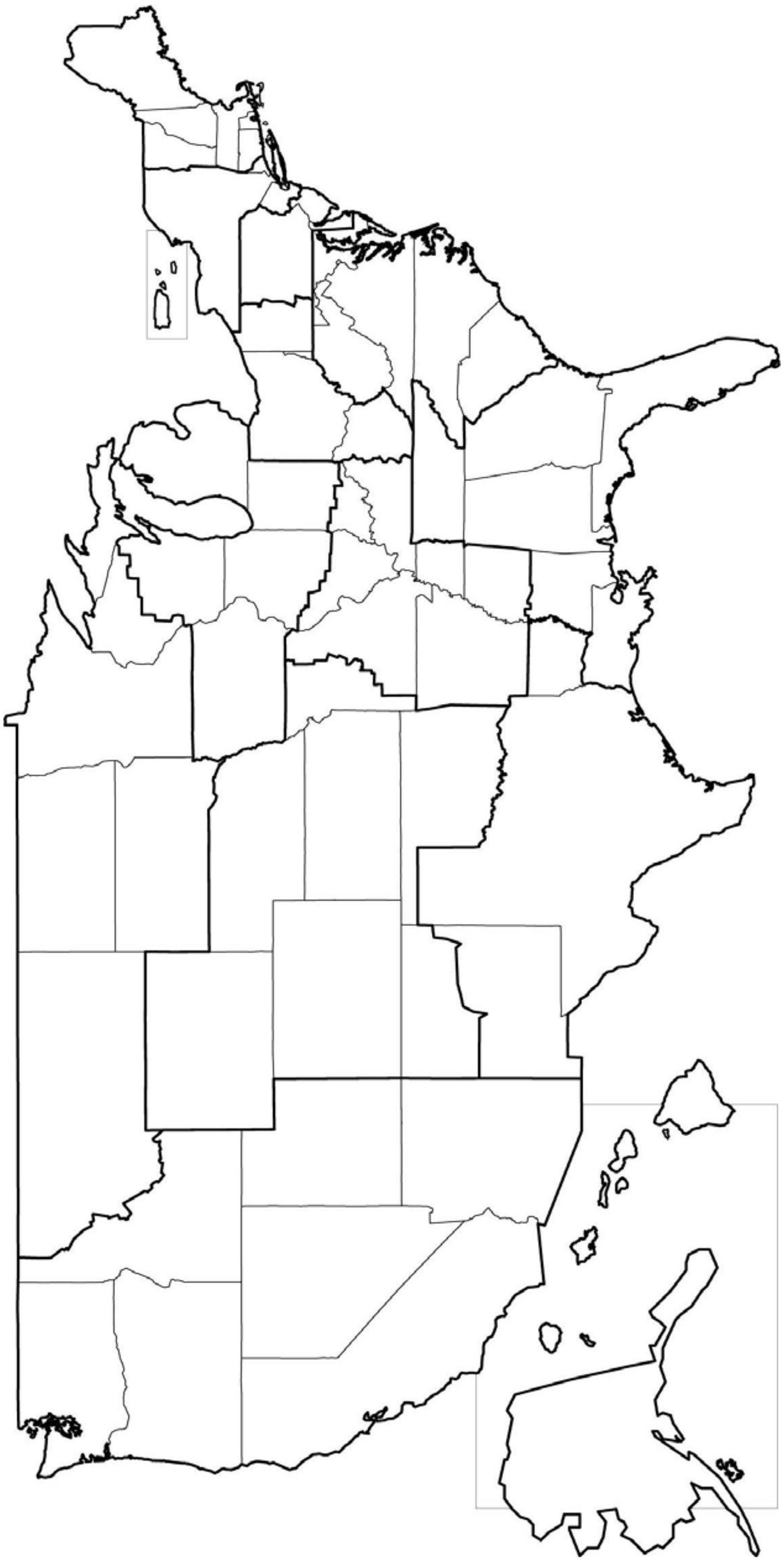
AT THE EXHIBIT: Using a pen, circle “MYTH” or “REALITY” based on the information you find in the exhibit station listed in parentheses after the statement. If the statement is a “MTYH,” write the corrected statement in the last column of the table.

STATEMENT	PRE-VISIT	AT THE EXHIBIT	AT THE EXHIBIT CORRECTED STATEMENT
1. The Federal Reserve Bank of Philadelphia is one of the nation’s busiest check processing facilities. It handles, on average, 5 million checks per day. (The Fed Family—Federal Reserve Bank of Philadelphia and Check It Out)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
2. Both the U.S. government and ordinary Americans can have accounts at the Federal Reserve Banks. (Then & Now–1913-1914)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
3. The Federal Reserve functions in total independence from the federal government, with no government oversight. (The Fed Family—The Federal Reserve System)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
4. The Federal Reserve Banks are funded by income taxes paid by American citizens. (The Fed Family—The Federal Reserve System)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
5. The Board of Governors of the Federal Reserve System is elected by the American people, with Governors serving staggered terms, like U.S. senators, and 10-year terms, like many federal judges. (The Fed Family—The Board of Governors)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	

Activity 4 (continued)
Myth Versus Reality

STATEMENT	PRE-VISIT	AT THE EXHIBIT	AT-THE-EXHIBIT CORRECTED STATEMENT
6. The Federal Open Market Committee (FOMC) uses the discount rate as the primary tool of monetary policy. (The Fed Family—The Federal Open Market Committee)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
7. Americans write on average 40 billion checks per year. (Check It Out)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
8. An average $1 bill is in circulation for approximately five years. (In & Out)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
9. Fedwire electronically transfers nearly $3 trillion every day. (Moving Money at Near Light Speed)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
10. On September 12, 2001, the Federal Reserve lent over $45 billion in overnight loans to banks to ensure financial stability. (Crisis Management)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
11. Following the September 11, 2001 attacks, the daily volume transferred over Fedwire was about $400 billion higher than before the attacks. (Crisis Management)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	
12. To evaluate if banks are at risk, the Federal Reserve uses frequent on-site examinations and inspections exclusively. (Eye on Banks)	MYTH or REALITY (*circle one*)	MYTH or REALITY (*circle one*)	

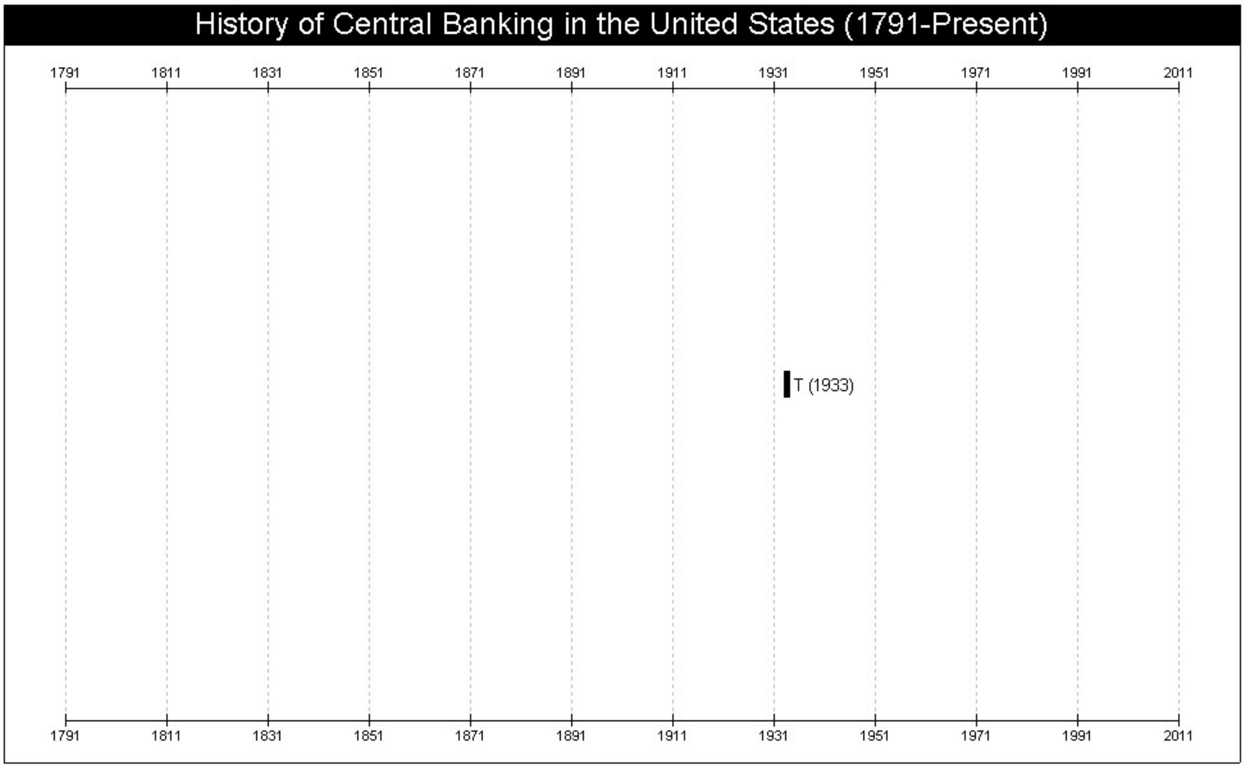
Activity 5
Map of the Federal Reserve System



Using the information in The Fed Family—The Federal Reserve System section of the “Money in Motion” exhibit, label the locations of the 12 Federal Reserve Banks *and* their Branches on the map above. Use dots for Branches, boxes for Reserve Banks, and a star for the Board of Governors. Use your highlighter to highlight the borders of all of the Federal Reserve Districts

Activity 6
History of Central Banking Timeline

Using the information you find on the "Then & Now" history wall, place the letter corresponding to each event listed in the legend below on the timeline. Include the date that the event occurred in parentheses. President Roosevelt's action to take the United States off the gold standard in 1933 (event "T") is placed on the timeline as an example.



LEGEND

A. President Woodrow Wilson signs the Federal Reserve Act into law.
B. The number of state-chartered banks in the United States grows to 88.
C. The stock market crashes.
D. The first Bank of the United States' charter comes up for renewal and it is rejected by a single vote in Congress.
E. Andrew Jackson vetoes a bill for the early re-charter of the second Bank of the United States.
F. The Treasury-Fed Accord is issued.
G. President Roosevelt declares a "bank holiday."
H. A $1 note from a Tennessee bank is exchanged for 80 cents in Philadelphia, while a $1 note from an Illinois bank is exchanged for only 50 cents.
I. Congress establishes an Independent Treasury System to manage the government's funds.
J. Banks in New York City set up the New York Clearinghouse Association to exchange checks and settle accounts.
K. Congress passes the Community Reinvestment Act.
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U. Congress passes legislation defining the goals of economic policy.
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W. Congress passes the Consumer Credit Protection Act.
X. Congress passes the National Bank Act.
Y. The Depository Institutions Deregulation and Monetary Control Act phases out restrictions on banks' ability to pay interest on deposits.
Z. The Gramm-Leach-Bliley Act repeals the prohibition against combining commercial banking, investment banking, and many insurance activities in the same organization.
AA. William Jennings Bryan runs a presidential campaign against a gold standard, declaring America will not be "crucified on a cross of gold."

Activity 7
Structure of the Federal Reserve System

Using the information on the Federal Reserve System, the Board of Governors, the Federal Open Market Committee, and the Federal Reserve Bank of Philadelphia found in The Fed Family section of the "Money in Motion" exhibit, fill in the blanks of the following paragraphs so as to accurately portray the structure of the Federal Reserve System.

The Federal Reserve Bank of Philadelphia is one of _______ regional Reserve Banks in the United States that, along with the ________________________ in ________________________, make up the Federal Reserve System—the nation's ___________________. The Federal Reserve System was established by Congress in _____. The Fed reports to ________________ but carries out its responsibilities independently. The Fed typically remits _____ percent of its earnings to the U.S. Treasury. To ensure a sound financial system and a healthy economy, the Fed _________________________________, ____, maintains the payments system, and serves as the _______________________ in a financial crisis.

The _________________________, led by its Chairman, is a federal government agency and the _____________ component of the Fed. Located in Washington, D.C., the Federal Reserve Board consists of ________ members—called Governors—who are appointed by the President of the United States and confirmed by the Senate. A Governor's term is ____ years, with appointments staggered to ensure Board continuity. The terms of the Chairman and Vice Chairman are ______ years.

The ______________________________________ (FOMC) is the Federal Reserve's chief monetary policymaking body. The FOMC's decisions ultimately affect ____________________. The FOMC's voting membership includes the _______ members of the Board of Governors, the president of the _____________ Reserve Bank, and _______ of the other _____ Reserve Bank presidents, who serve in an annual rotation. But regardless of their voting status, all Reserve Bank presidents offer views on __________________________ in their regions and the nation at every FOMC meeting. The Board's _____________ also serves as FOMC Chairman, while the ____________________ Fed president serves as FOMC ___________________.

Activity 8
Cards for Open Market Operations Activity

Classroom Bank $10,000 in a Checking Account	$10,000 TREASURY BOND TEN THOUSAND DOLLARS
Classroom Bank $10,000 in a Checking Account	$10,000 TREASURY BOND TEN THOUSAND DOLLARS
FEDERAL RESERVE NOTE $10,000	FEDERAL RESERVE NOTE $10,000
FEDERAL RESERVE NOTE $10,000	FEDERAL RESERVE NOTE $10,000