



FEDERAL RESERVE BANK
OF PHILADELPHIA

What Is the Federal Reserve?

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. As part of its responsibilities for the payments system, the Fed operates a large, nationwide check clearinghouse.

Grades

6-8

Concepts

Bank Panic
Check Clearing
Clearinghouse
Federal Reserve System
Interest
Reserves
Saving

Content Standards

Voluntary National Content Standards in Economics—Content Standards 10 and 20
Delaware—Economics Standards: Standard 2
Pennsylvania—Academic Standards in Economics: 6.2.6, 6.2.9
New Jersey—Social Studies Standards: Standard 6.5

Pre-Visit

Lesson Description

Students participate in a simple banking simulation to learn how banks take in deposits, make loans, and hold reserves. Students will simulate the difficulties of check clearing without a clearinghouse and efficient check clearing with the Federal Reserve’s clearinghouse.

Objectives

Students will:

1. Define bank reserves and check clearing.
2. Explain the basics of how banks make money by taking in deposits and making loans at different interest rates.

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3. Explain why banks do not hold enough reserves to allow all depositors to come to the bank at the same time and withdraw their money.
4. Explain why a clearinghouse makes check clearing more efficient.

Time Required

60 minutes

Materials

10 letter-sized envelopes, numbered 1 to 10.
Overhead projector pen
5 rolls of tape
11 paper clips
Visual 1, one transparency and one copy for each student
Visual 2, preferably in color
Activity 1, 18 copies, cut apart
Activity 2, 5 copies cut apart
Activity 3, cut apart

Preparation

1. Produce 18 copies of Activity 1 and cut apart on the dotted lines. Produce five copies of Activity 2 and cut apart on the dotted lines. Produce one copy of Activity 3 and cut apart on the dotted lines.
2. For the banking simulation, assemble 10 envelopes of play money. Label the envelopes by number. In each envelope, include a depositor nametag with the appropriate number filled in on the nametag. Fill the envelopes with the following amounts of play money:

Depositor 1: \$520	Depositor 6: \$750
Depositor 2: \$631	Depositor 7: \$700
Depositor 3: \$542	Depositor 8: \$650
Depositor 4: \$783	Depositor 9: \$500
Depositor 5: \$841	Depositor 10: \$513

Paper clip and save the remaining paper money for use in the simulation.

3. Fill in the 10 borrower nametags from Activity 1 with the numbers 1 to 10. Paper clip each of the borrower nametags to a borrower card from Activity 3. It does not matter which borrower card goes with which borrower nametag.

Procedure

1. Explain to the students that over the next couple of days they are going to learn some things about the ways that banks do business. Ask the students what banks do. (*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, ATM, etc.*) Explain to the students that bank panics used to happen

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quite frequently in the United States. **Bank panics** occurred when people who had deposited money in a bank would return to get their money out but wouldn't be able to withdraw their money because the bank didn't have enough cash on hand to honor all the withdrawal requests.

2. Discuss the following:
 - a. Why do people put their money in banks? (*To keep it safe, to earn interest, to be able to write checks, and to initiate electronic payments.*)
 - b. What is **interest**? (*Interest is money that is paid at some regular interval [e.g., daily, monthly, quarterly, annually] at some specified rate [interest rate] for the use of borrowed money. When a person puts money in an interest-bearing account at a bank, she is, in effect, lending money to the bank.*)
 - c. How do banks make money? (*Banks make money by taking in deposits and making loans. They generally pay a lower rate of interest on the deposits they take in and earn a higher rate of interest on the loans they make.*)
 - d. What is **saving**? (*Saving is putting money aside for future consumption.*)
3. Distribute each of the 10 packets of money prepared before class to 10 students. Distribute each of the paper-clipped borrower's packets to 10 different students. Select another student from the class to serve as cashier. Give the student who will be playing the role of cashier the cashier nametag. Select another student from the class to serve as the recorder. Give the student who will be playing the role of recorder the recorder nametag. Give the recorder an overhead projector pen to record the deposits on Visual 1. Ask each student to tape on his or her nametag. Provide the students a copy of Visual 1 so that they can follow along with the recorder.
4. Tell the students with envelopes of money to count the money in their envelopes and record the amount on a piece of paper or in their notebooks. Explain to the students that they will deposit all of their money in the bank.
5. Write "BANK" on the board and put a desk in the front of the room. Explain to the students that this is the first day of the new bank's operations and that the bank is going to take in its first deposits. Ask the recorder and the cashier to come to the front of the room. Give the extra paper-clipped play money to the recorder and ask the recorder to set up a pile on the desk for each denomination. Ask Depositor 1 to come to the front of the room and deposit his or her money in the bank. Depositor 1 will hand his or her money to the cashier. The cashier will count the money and verify with Depositor 1 that the amount is correct. The cashier will instruct the recorder to record Depositor 1's name and the amount on Visual 1. The cashier will then organize the money into the piles of ones, tens, fifties, and hundreds on the desk. As the recorder records the deposits on the visual, each student in the class should record the deposits on his or her copy of Visual 1.
6. The recorder and the cashier will continue to take in deposits in this way until all depositors have deposited their money.

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7. Discuss the following:
 - a. Why is it important for the bank to keep good records of the deposits? (*The bank will need to know exactly how much money has been deposited by each depositor.*)
 - b. In today's banks, how are records actually kept? (*Electronically on the bank's computer system.*)
 - c. At a real bank, what types of documents would depositors get from the bank to prove how much money they deposited and how much is currently in their account. (*A deposit receipt, a bank statement in the mail each month or each quarter, an electronic statement that is accessible online, a passbook in which each deposit or withdrawal is recorded. [Most students are unlikely to be aware of a passbook because most banks have eliminated passbook savings accounts.]*)
 - d. What is the total amount of all the deposits? (\$6,430) Have the recorder record this amount in the Total Deposits section on the deposits table on Visual 1.
 - e. Now that the bank has taken in these deposits, what is the bank likely to do? (*Start to make loans.*)
8. Discuss the following:
 - a. Why do people want to borrow from a bank? (*People apply for and receive loans from banks because they want to buy something and they don't have enough money saved up to buy it. People usually borrow from banks and other financial institutions in order to buy large items such as houses, cars, and boats and to start businesses, pay for college, etc.*)
 - b. Why do people have to be careful when they borrow money? (*People should be careful not to borrow more money than they can reasonably pay back. Borrowing too much and too often can get people into financial trouble.*)
9. Ask Borrower 1 to come up to the front of the room. Based on the information on his borrower card, have Borrower 1 announce the amount he would like to borrow.
10. Ask the students what a banker might want to know about a person applying for a loan. (*A banker will consider a customer's history of repayment, amount of outstanding loans, and likelihood of repaying the loan, among other factors, before making a loan to a customer.*) In this classroom example, explain that all of the loan applications were approved.
11. Instruct the recorder to record Borrower 1's name and the amount he is borrowing from the bank. Instruct the cashier to pay Borrower 1 the amount of money he is borrowing from the bank. Continue in this way with each borrower announcing the amount she would like to borrow, the recorder recording the borrowers' names and amounts of their

loans, and the cashier paying each borrower the amount of the loan. Instruct the students to enter each of the loans on their copy of Visual 1.

12. Discuss the following:
 - a. What is the total amount of loans made to customers? (\$5,500)
 - b. How much money of the original deposits was left over after all of the loans were made? (\$930)
13. Explain to the students that the amount of money that isn't loaned out by the bank is called **reserves**. Instruct the recorder to enter the total amount of deposits in the appropriate blank in the reserves section of Visual 1. Instruct him or her to enter the total amount of all the bank's loans in the appropriate blank in the reserves section of Visual 1. Finally, instruct the recorder to enter the total amount of reserves (\$930) in the appropriate blank in Visual 1. Ask the students to enter these amounts on their copies of Visual 1.
14. Explain to the students that:
 - Banks hold reserves so they will have some money on hand to pay out to customers who want to withdraw some or all of their deposits from their accounts. Banks also hold reserves to be used for transactions like check clearing and electronic transfers, which take place between banks. Banks in the United States are required by the Federal Reserve to hold a small amount of their deposits in the form of reserves.
 - Banks hold their reserves in their vaults in the form of cash or on account at the Federal Reserve.
15. Discuss the following:
 - a. Suppose that on the second day, the classroom bank is open for business, and all of the depositors return to the bank and want to take out half of their money. How much money, in total, would the 10 depositors try to withdraw from the bank? (\$3,215)
 - b. Will the depositors be able to withdraw this amount of money? (*No. There is only \$930 in reserves.*)
 - c. What will happen once the depositors discover that there isn't enough money in the bank for all of them to withdraw half their deposits? (*There will likely be a bank panic.*)
 - d. Why isn't there enough money at the bank to honor the withdrawal requests of all of the depositors? (*A lot of the money was loaned out to people so they could buy things like houses, cars, boats, etc. Those borrowers will repay their loans, with interest, over a period of time, which, for loans to buy homes, might be as long as 30 years or more.*) Explain that typically people want to withdraw only a small

portion of their deposits. Banks know this so they usually can lend out the funds that would otherwise be idle.

16. Explain that in the history of the United States, there have been a number of bank panics. However, since the early 1900s bank panics have become less and less common. The **Federal Reserve System** was founded in 1913 to reduce the number of bank panics in the United States. The Federal Reserve System is able to lend to banks that are short on reserves. This is the Federal Reserve System's role as "lender of last resort." In 1934, the Federal Deposit Insurance Corporation (FDIC) opened for business. The FDIC insures bank deposits up to \$100,000. This insurance makes people less likely to rush to the bank to withdraw their money for fear of a bank panic or bank failure. If a bank fails, they will be reimbursed for the full amount of money in their account up to \$100,000.
17. Discuss the following:
 - a. What are some ways that people pay for goods and services? (*Paper currency, coins, checks, credit cards, debit cards, electronic funds transfer, etc.*)
 - b. What is a check? (*A check is a written set of instructions to your bank. When you write a check, you are instructing your bank to transfer a specific amount of money from your checking account to another person, business, government, or organization.*)
 - c. Have you ever received a check? How did you cash the check? (*Answers will vary but may include deposited in my bank account, took it to the bank and they cashed it, gave it to my parent or guardian.*)
 - d. Why do people choose to use checks? (*Checks are relatively safe and convenient. People can use a cancelled check to prove that they have paid a bill. Having a checking account and writing checks can be less expensive than using a check casher and buying money orders.*)
18. Explain to the students that in recent years people in the United States have used more and more electronic forms of payment, such as credit cards and debit cards. Even though people are making more use of electronic payment methods and are using fewer checks, there are still billions of checks written in the United States each year.
19. Tell the students the following story:

"Suppose your aunt in California sends you a check for your birthday. You take it to your bank and deposit it in your savings account. How's your bank here going to get the money from your aunt's bank in California to put into your account here? The answer is check clearing."
20. Distribute one copy of Activity 4 to each student. Explain to the students that each of the 16 dots on the page represents a bank. In this simple model of check clearing, each bank is going to send at least one check to every other bank on the page. Tell the students to draw lines from each bank to all the other banks to represent the movement of checks

from one bank to another. Allow the students five minutes to draw lines between banks on the page. It is unlikely that the students will succeed in drawing all of the lines in five minutes. After the five minutes are up, hold up a few of the more complex and complicated designs produced by the students.

21. Discuss the following:
 - a. What made this check-clearing process complex? (*Each bank had to send at least one check to every other bank and that resulted in many different exchanges of checks.*)
 - b. What would make the clearing of checks simpler? (*If each bank could send its checks to a central location that would act as a go-between or clearinghouse.*)
22. Distribute one copy of Activity 5 to each student. Explain to the students that this time all checks will be sent to the Federal Reserve, and the Federal Reserve will send them on to the various banks. Each check will pass through the Federal Reserve on its way to the next bank. Give the students five minutes to send at least one check from each bank through the Federal Reserve on its way to another bank. When the five minutes are up, hold up a few of the students' papers. They should all look relatively similar—like a wheel with spokes radiating from the Federal Reserve in the middle.
23. Explain to the students that:
 - The Federal Reserve System serves a number of important roles in our economy. It serves as the nation's central bank. It performs a number of important services for banks, government, and the economy as a whole.
 - As they have just seen, the Federal Reserve System is a major check-processing **clearinghouse**. While there are other check-processing clearinghouses run by some commercial banks and other entities, the Fed is a nationwide clearinghouse that serves all communities. Show Visual 2 and explain that the Federal Reserve's numerous locations across the country allow it to serve communities nationwide with payment services such as check clearing.
 - Each of the 12 Federal Reserve Banks and many of their Branches store and distribute all of the paper currency and coin for the whole country.
 - Paper currency is printed by the Bureau of Engraving and Printing in Washington, D.C. and Fort Worth, TX, but distributed from the 12 Federal Reserve Banks and many of their Branches.
 - The U.S. Mint produces coins at its facilities in Philadelphia and Denver. The freshly minted coins are shipped from the mints to Federal Reserve Banks and many of their Branches across the country for distribution to financial institutions.

- The Federal Reserve also plays an important role in supervising how banks are doing business, taking in deposits of banks' reserves, and lending to banks when they are short on reserves.
 - The Federal Reserve is responsible for controlling the nation's money supply.
 - The Federal Reserve System serves as the U.S. government's bank by carrying out transactions on the government's behalf.
24. Tell the students that they will be going to the Federal Reserve Bank of Philadelphia to see the "Money in Motion" exhibit. At the exhibit, they will learn more about what the Federal Reserve Bank of Philadelphia does, see some counterfeit bills, learn how much money is in its vaults, and find out more about how the check-clearing process is carried out. Remind the students to bring a quarter with them on the field trip if they would like to exchange it for the latest addition to the 50 State Quarters series.

Closure

1. What are bank reserves? (*Bank reserves are the deposits that banks don't lend. A bank's reserves can be found by subtracting the total value of its loans from the total value of its deposits.*)
2. How do banks make money by taking in deposits and making loans? (*Banks make money by earning a higher interest on their loans than they pay on their deposits.*)
3. Why aren't there enough reserves at a bank to allow all depositors to come to the bank at the same time and withdraw their money? (*Banks hold only a small percentage of the money they take in. The rest of the money they lend. Therefore, if all depositors came to the bank on the same day to withdraw all of their money, there would not be sufficient reserves to cover all of the withdrawal requests.*)
4. What is check clearing? (*Check clearing is the process of moving funds from one bank to another via a clearinghouse such as the Federal Reserve.*)
5. Why does a clearinghouse make check clearing more efficient? (*A clearinghouse makes check clearing more efficient because banks can send all of their checks to one location—the clearinghouse. The clearinghouse then sorts the checks and sends them on to other banks in batches. The clearinghouse also settles the accounts of the banks that use its services.*)

Assessment

Ask students to write three paragraphs on the following:

Imagine that you are a bank manager and that you have a customer who has asked you the following questions:

1. How does the bank make money?

2. If I get a check from my cousin who uses a different bank, how will the money flow from his bank account to mine after I deposit his check in my account?
3. What would happen if all of the bank's depositors came to the bank on the same day to withdraw money?

Write a short skit that shows the dialogue between you and your bank's customer.

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, check processing, and the history of banking and finance in the United States.

Time Required

45 minutes

Materials

Activity 6, 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 students. Distribute a copy of Activity 6 to each student. Assign one-quarter of the groups to the first page of Activity 6. Have them start at the "Check It Out" station. Start another quarter of the groups on the second page at the "Then & Now" history wall. Start another quarter of the groups on the third page at the "America's Ever-Changing Money" panel. The last quarter of the class should start on the fourth page at "The Federal Reserve System" panel on the "Fed Family" station. Groups should work through Activity 6 and the corresponding exhibit stations in order (i.e., groups that start on the second page should progress to the third page when they have finished the second page).
2. Tell students that they must locate the information requested on Activity 6 in the exhibit and complete Activity 6. Point out that the station where the information is located appears in parentheses after the question. When they have completed Activity 6, 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 groups begin to work on Activity 6.

4. Remind students 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 Activity 6. Collect all Activity 6 worksheets from the students before leaving the exhibit.

Post-Visit

Lesson Description

Students share their answers for the At-the-Exhibit activities. They investigate the decisions made by bank loan officers during a simple simulation. They review the basic functions of the Federal Reserve System.

Objectives

Students will:

1. List the three major functions of the Federal Reserve System.
2. Explain the structure of the Federal Reserve System.
3. List the steps in the typical check-clearing process used by the Federal Reserve System.
4. Explain the basics of how banks determine whether a loan application is approved.

Time Required

60 minutes

Materials

Students' completed copies of Activity 6

Transparencies of Activity 6

Visual 2, preferably in color

Visual 3

Activity 7, cut apart

Activity 8, one copy per student

Procedure

1. Have students share their answers to the first page of Activity 6. As students share their numbering of the steps for the typical check-clearing process, record the steps on the visual of the first page of Activity 6. Answers to check-clearing ordering activity:

STEP #	STEP DESCRIPTION
3	First National Bank credits the jewelry store's account.
8	The checks go to the high-speed processor for sorting.
10	The Fed debits Center City Bank's account for the total value of checks drawn on its customer's account that day.
1	Jeff Love writes a check from his account at Center City Bank to buy an engagement ring for his fiancée at a jewelry store in Delaware.
13	Jeff Love receives his statement and checks in order to balance his checking account.
9	The sorter reads the magnetic characters on the bottom of the checks and sorts together all checks drawn on Center City Bank.
4	First National Bank encodes the amount on the face of the check and endorses the back.
7	The Fed credits First National Bank for the checks deposited.
6	The Fed receives the checks at the loading dock, places them on carts, and delivers the checks to the processing area.
2	The jewelry store deposits the check in its account at the First National Bank in Radnor, PA.
12	Center City Bank receives Jeff Love's check and debits the amount from his account.
5	First National Bank bundles its checks and sends them to the Federal Reserve Bank of Philadelphia.
11	The checks are sent back to Center City Bank by courier.

2. Discuss the following:
 - a. On what types of goods and services does the typical check-clearing process depend? (*Transportation, people, paper, and high-speed sorting machines.*)
 - b. Did anyone look at the "Simplifying the Process" way of check clearing? How does the simplified process differ from the typical process? (*In the simplified process, the paper check is converted into an electronic payment. This conversion allows the payment to be made without having to move the actual check around and with fewer steps.*)
 - c. While the typical process depends heavily on transportation for moving the check around, what does the simplified process depend on? (*Computers, equipment, and data networks for transmission of the electronic payment.*)
3. Have students share their answers to the "Then & Now" timeline. As students share their answers, record the correct answer on your visual of the second page of Activity 6.

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Answers to timeline activity:

TIME PERIOD	DESCRIPTION	IMAGE DESCRIPTION
1960s – 1980s	Congress expands the Fed’s role in consumer protection.	Family moves into new home; row houses get rehabilitated; ATM; grand opening sign; woman at her business
1861 – 1912	A more uniform currency emerges from the Civil War.	Currency from the era; model of unfinished U.S. Capitol; image from Wizard of Oz; William Jennings Bryan
1930s	The Great Depression reshapes the role of government, the financial system, and the Fed.	PA Turnpike; Franklin Roosevelt; Marriner Eccles; Carter Glass; run on American Union Bank; WPA activities
1836 – 1860	State banks’ notes serve as currency, but also bring financial confusion.	Currency from the era; deWitt Clinton steam locomotive; early clearinghouse in New York; wildcat bank cartoon
1940s – 1970s	Fed policy becomes independent and economic goals become clearer.	Interstate highway; Eccles Building; Senator Humphrey; Senator Hawkins and President Carter; RCA factory
1791 – 1811	A penniless young country takes a tentative step into central banking.	Currency from the era; USS Massachusetts intercepting a smuggler; Alexander Hamilton; Thomas Jefferson; docks in Philadelphia; First Bank of the United States
1980s – 2000	Deregulation of banking reshapes the financial system and the Fed’s role.	New National Bank website; U.S. Capitol; Fed check-clearing machine; workers change the sign on a bank building
1913 – 1914	Repeated financial failures prompt Congress to establish a decentralized central bank.	Federal Reserve notes; Woodrow Wilson; Model T Fords on assembly line; cartoon of a dead crow
1816 – 1836	Central banking gets a second chance, but again it doesn’t last.	Currency from the era; model of Second Bank of the United States; Nicholas Biddle; Andrew Jackson; map showing the branches of the Second Bank

4. Have students share their answers to the Fill-in-the-Blank section of Activity 6. As students share their answers, record the correct answer on your visual of the third page of Activity 6. Answers to the Fill-in-the-Blank activity:

1. The highest denomination note ever issued by the U.S. was the \$100,000 note.
2. In an average year, the Philadelphia Fed destroys about \$6 billion worth of unfit currency—over \$100 million a week!
3. The currency cart at the “Money in Motion” exhibit contains \$1,350,000 in new \$5 bills.
4. The Federal Reserve Bank of Philadelphia is responsible for the Third Federal Reserve District, which covers eastern Pennsylvania, southern New Jersey, and Delaware.

5. Located in Washington, D.C., the Federal Reserve Board consists of seven members called Governors, who are appointed by the President and confirmed by the Senate.
6. The vaults at the Federal Reserve Bank of Philadelphia are each about the size of a football field. On an average day, the vaults hold over \$7 billion in currency and coin.
7. Five bills on display at the “Money in Motion” exhibit are counterfeit.
8. The average \$1 note is in circulation for less than two years, while a \$100 note may last for up to eight years.
9. What are the three main functions of the Federal Reserve System?
 1. Establish and implement monetary policy
 2. Regulate and supervise banking
 3. Operate the nation’s payments system
10. Which state quarter is available at the exhibit? Answer will vary throughout the year. The release schedule for the state quarters is:

2006	2007	2008
Nevada	Montana	Oklahoma
Nebraska	Washington	New Mexico
Colorado	Idaho	Arizona
North Dakota	Wyoming	Alaska
South Dakota	Utah	Hawaii

5. Display Visual 2. Have students check their work on the map of the Federal Reserve System on the fourth page of Activity 6.
6. Discuss the following:
 - a. Are the different Federal Reserve Districts of equal geographic size? (*No.*)
 - b. Why are some of the Federal Reserve Districts larger than others? (*When the Federal Reserve System was established in 1913 and 1914, the Federal Reserve Districts were laid out so as to give each District roughly the same percentage of the U.S. population, banking, and commerce. Since then, many parts of the U.S. have seen significant changes in population and the size of banking and commerce.*)
 - c. How have Federal Reserve Banks met the challenges of serving large geographic areas? (*By establishing Branches and operation centers across their Districts.*)

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- d. How many Branches does the Federal Reserve Bank of Philadelphia have?
(None.)
7. Explain to the students that banks don't lend money to everyone who comes to them requesting a loan. If banks did lend to anyone who wanted a loan, some people would be unable or unwilling to repay their loan. As a result, banks could lose a lot of money. Banks in the U.S. are expected to operate under "safe and sound" banking practices. That means that banks will make loans only to people who are expected to repay them according to the terms they agreed to.
8. Explain to the students they are going to get to be loan officers at a bank.
- Divide the class into six groups. Distribute one card from Activity 7 to each group. Distribute one copy of Activity 8 to each student.
 - Tell students that their job is to decide whether to approve the loan request described on the card. Explain to students that they must first decide on the name for their bank and write it on their loan application worksheet (Activity 8). Next, they need to complete the loan application worksheet based on the information on the loan request card they were given.
 - Emphasize to the students that real banks charge interest on money they lend, but to make filling out the loan application worksheet easier, they should assume that the interest rate charged by the bank is 0%. They need to list on the loan application worksheet three questions they would like to ask the loan applicant before making a decision on whether to approve the loan application.
 - Finally, tell them to make a decision about whether to grant the loan and list the reason(s) for approving or denying the loan application.
 - Give students time to work on their loan application worksheets.
9. Review the loan application activity by having each group make a presentation to the class about their loan application scenarios. In their presentation, the groups should read the loan request card they were given and include all of the information they wrote on the loan application worksheet.

The answers for the numerical portion of the loan application worksheet for each loan request card are:

Rob (bicycle)	
Borrower's Assets	\$0
Borrower's Weekly Income	\$50
Total Loan Amount	\$250
Monthly Payment	\$20.84

Sara (computer)	
Borrower's Assets	Bicycle (three years old)
Borrower's Weekly Income	\$5
Total Loan Amount	\$2,000
Monthly Payment	\$166.67

Cindy (outfit)	
Borrower's Assets	Bicycle (five years old) + \$15
Borrower's Weekly Income	\$2
Total Loan Amount	\$60
Monthly Payment	\$5

Ron (basketball shoes)	
Borrower's Assets	\$0
Borrower's Weekly Income	\$0
Total Loan Amount	\$150
Monthly Payment	\$12.50

Sam (MP3 player)	
Borrower's Assets	\$0
Borrower's Weekly Income	\$0
Total Loan Amount	\$300
Monthly Payment	\$25

Amalia (rollerblades)	
Borrower's Assets	\$50
Borrower's Weekly Income	\$10
Total Loan Amount	\$100
Monthly Payment	\$8.34

10. Discuss the following:
- Why did the class choose to approve the loan applications of some of the borrowers and reject the applications of other borrowers? (*Some borrowers [Rob, Cindy, and Amalia] were, based on the information on the card, more likely to repay the loan. Some borrowers [Ron, Sara, and Sam] were asking to borrow too much money given their income and assets.*)
 - Why is it important to ask the borrower questions? (*There might be additional information other than what is on the loan request card that would change the decision about whether to grant the loan.*)

11. Explain to the students that Congress and the President enact laws that govern banking and protect consumers. Tell them that the Federal Reserve Board, in consultation with other regulatory agencies, establishes bank regulations. Bank regulations are extensive documents that explain what banks and other financial institutions should do in order to comply with the applicable banking and consumer protection laws.
12. Display Visual 3. Explain to students that each Reserve Bank has bank examiners. These bank examiners analyze banks' activities to make sure that banks are doing business "safely and soundly" and in compliance with all banking regulations. Sometimes examiners go to bank locations, but often they monitor a bank's activities remotely by electronic means. The work of the Federal Reserve Board in writing bank regulations and the work of bank examiners at the Reserve Banks represent the Federal Reserve's responsibility to regulate and examine banking.
13. Explain that the Federal Reserve is also responsible for establishing and implementing monetary policy. In this role, the Fed influences the amount of money available in the economy and interest rates.
14. Explain to students that the Federal Reserve is also responsible for operating the nation's payments system, which includes distributing currency and coin along with clearing checks and electronic payments.

Closure

1. What are the three major functions of the Federal Reserve System? (*Establish and implement monetary policy, regulate and supervise banks, operate the nation's payments system.*)
2. What is the structure of the Federal Reserve System? (*The Federal Reserve System has 12 regional Reserve Banks and a centralized, seven-member Board of Governors in Washington.*)
3. What are the steps in the typical check-clearing process used by the Federal Reserve System? (*A business's customer writes a check in payment for a good or service. The business deposits the check in its bank. The business's bank credits the business's account. The business's bank encodes the amount on the face of the check and endorses the back. The business's bank bundles its checks and sends them to the Federal Reserve. The Fed receives the checks at the loading dock, places them on carts, and delivers the checks to the processing area. The Fed credits the business's bank for the checks deposited. The checks go to the high-speed processor for sorting. The sorter reads the magnetic characters on the bottom of the checks and sorts together all checks drawn on the customer's bank. The Fed debits the customer's bank account for the total value of checks drawn on its customer's account that day. The checks are sent back to the customer's bank by courier. The customer's bank receives the customer's check and debits the amount from his account. The customer receives his statement and checks in order to balance his checking account.*)

4. What are the basics of how banks determine whether a loan application is approved? (*Banks make loan approval decisions after carefully considering an individual's creditworthiness, likelihood of repaying the loan, prior payment history, etc.*)

Assessment

1. Ask students to complete the following:
In the typical check-clearing process illustrated at the "Money in Motion" exhibit, Jeff Love buys a ring for his fiancée. Write and illustrate your own story describing the writing of a check for the purchase of a good or service. Be sure to include all of the steps in the typical check-clearing process and use different characters and bank names than those used in the story at the exhibit.
2. Ask students to complete Activity 9. Answers to Activity 9:
Multiple Choice Questions
 1. c
 2. c
 3. b

Checklist

- √ Clearing checks
- √ Storing and distributing paper currency and coin
- Printing paper currency (*This is done by the Bureau of Engraving and Printing.*)
- Insuring bank deposits up to \$100,000 per account (*This is done by the FDIC.*)
- √ Supervising and regulating banking
- √ Controlling the nation's money supply
- √ Serving as the U.S. government's bank
- Approving loans that banks make to individuals and businesses (*Banks approve their own loans.*)

Visual 1
Deposit/Loan Record

DEPOSITS			
Name	Amount	Name	Amount
	\$		\$
	\$		\$
	\$		\$
	\$		\$
	\$		\$
Total Deposits			\$

LOANS			
Name	Amount	Name	Amount
	\$		\$
	\$		\$
	\$		\$
	\$		\$
	\$		\$
Total Loans			\$

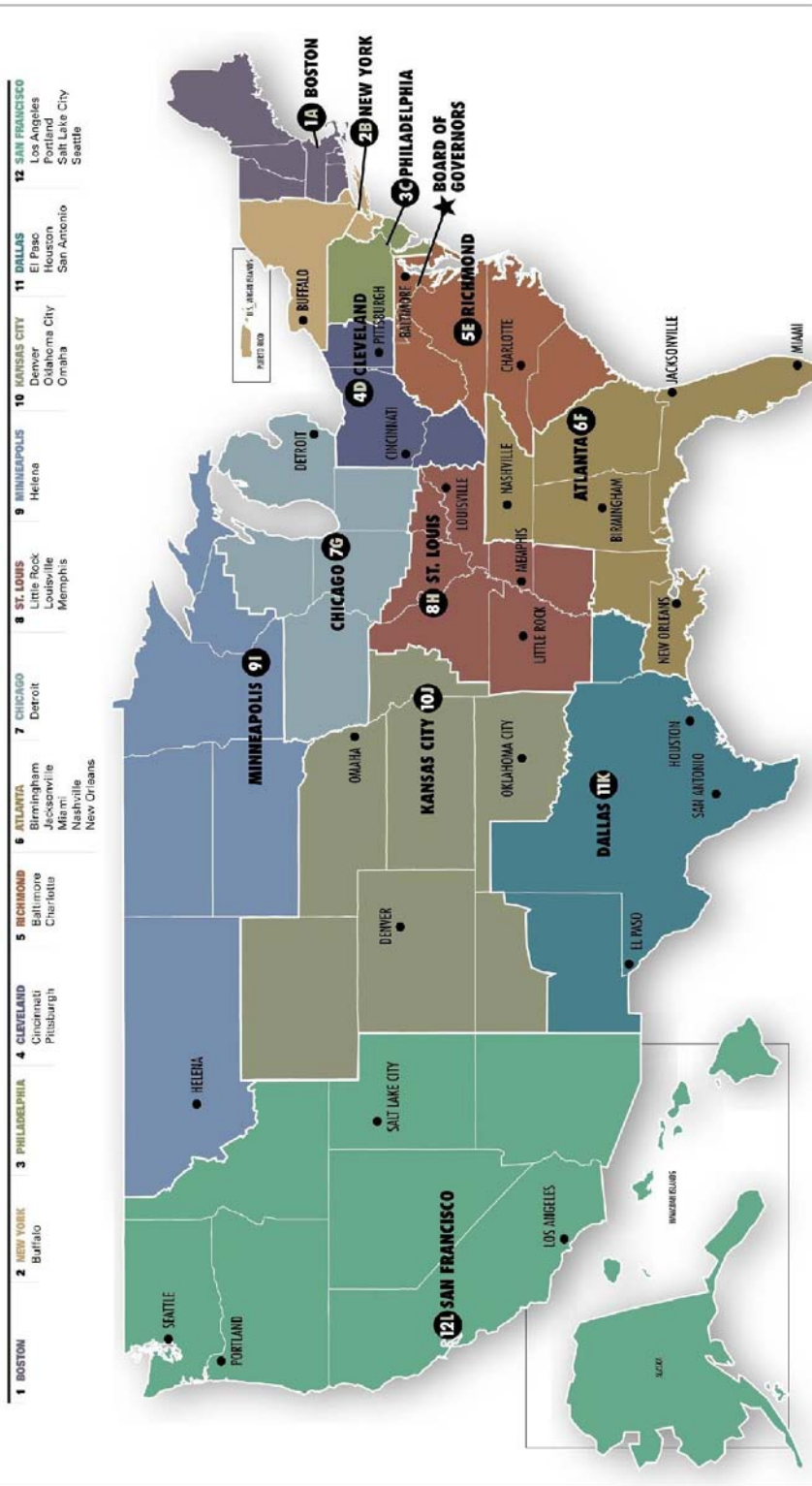
RESERVES	
Total Deposits	\$
- Total Loans	- \$
Reserves	\$

Visual 2

Map of the Federal Reserve System

FEDERAL RESERVE BANKS AND BRANCHES

The Federal Reserve System's centralized component, the Board of Governors, is located in Washington, D.C. (see star on map); its decentralized components, Reserve Banks, are scattered throughout the country. Listed below are the 12 Reserve Banks and their Branches.



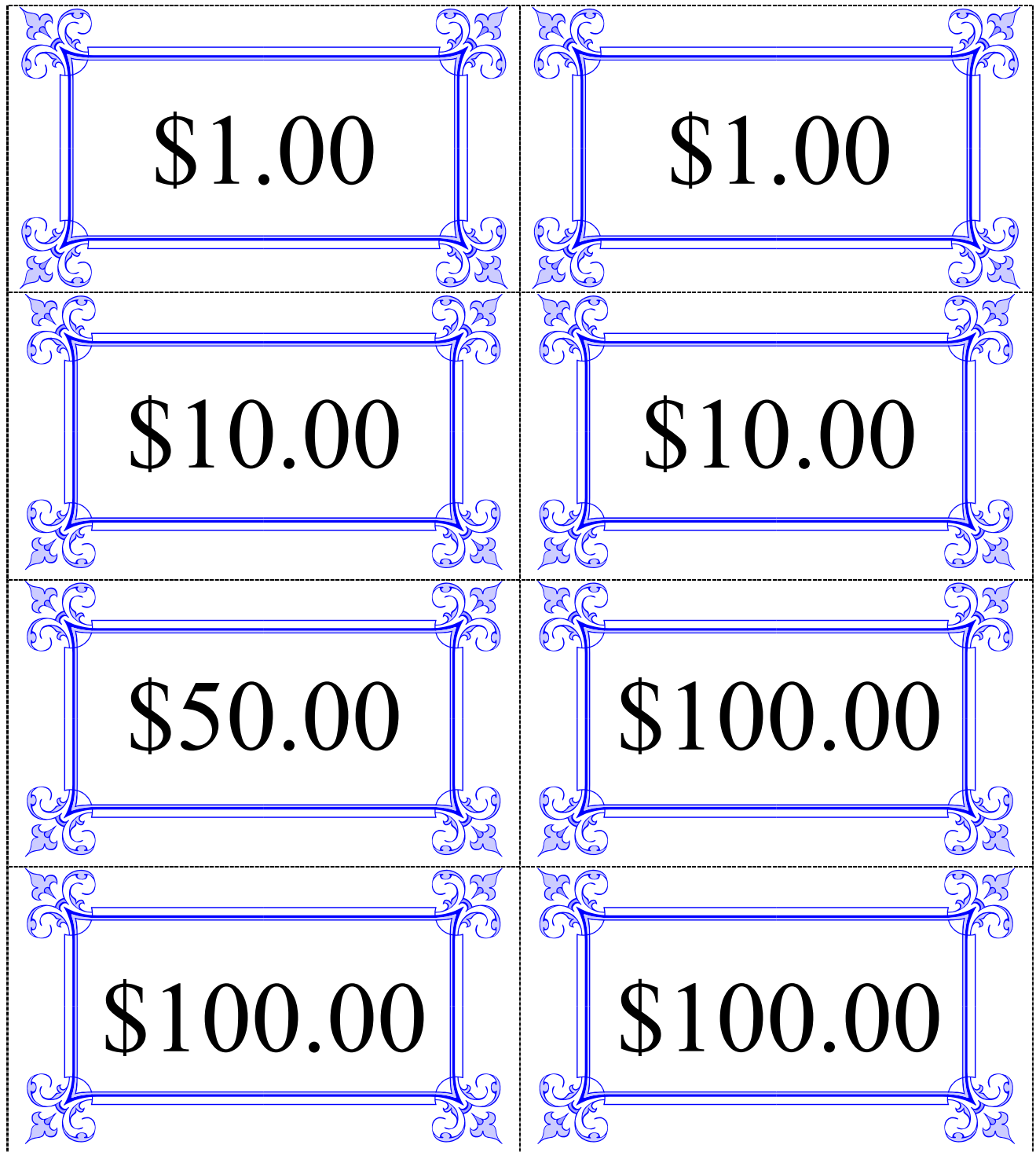
Visual 3

Functions of the Federal Reserve System

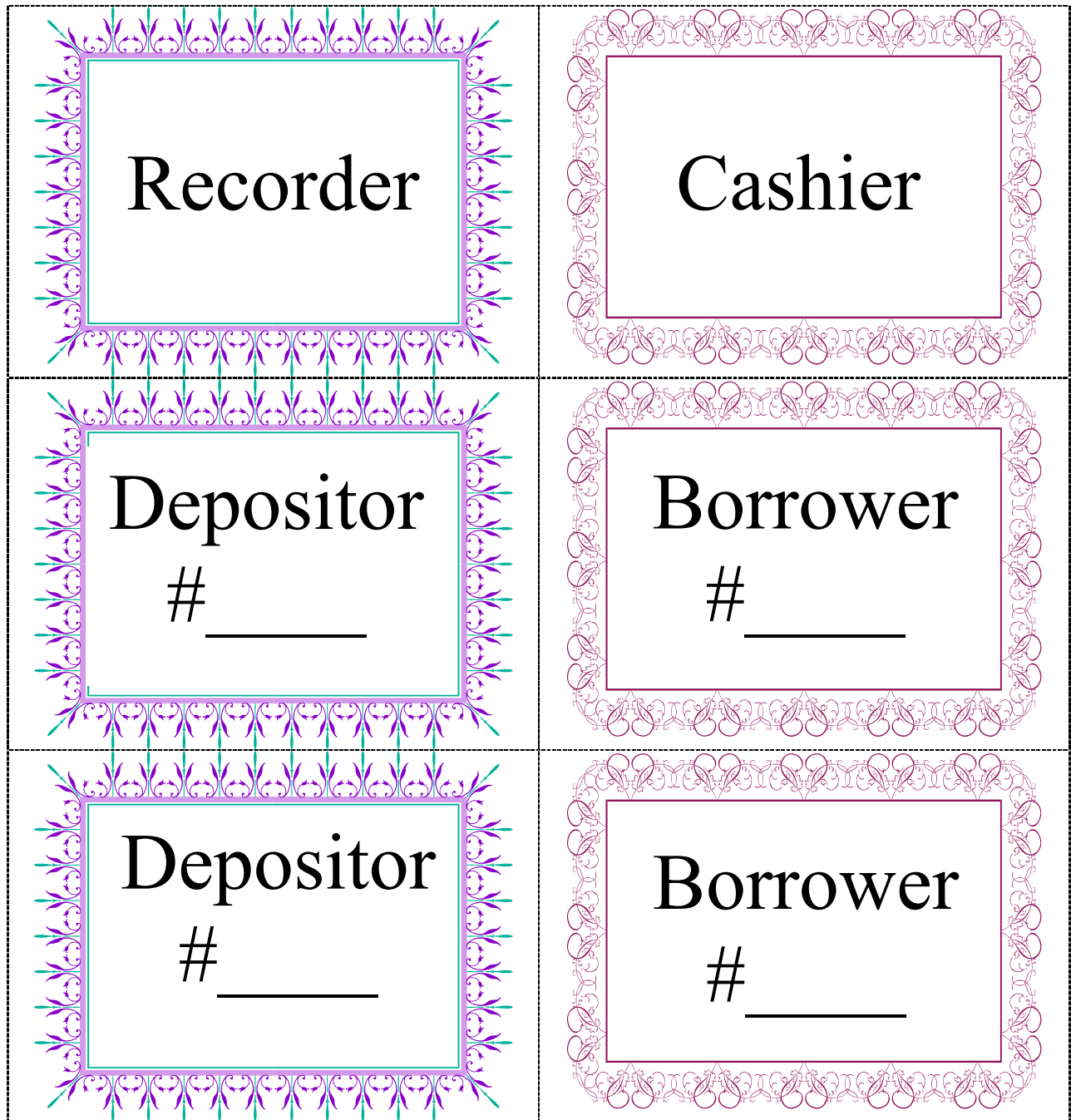
Functions of the Federal Reserve System

- A. Establish and implement monetary policy
- B. Regulate and supervise banks
- C. Operate the nation's payments system

Activity 1
Money



Activity 2
Name Badges



Activity 3

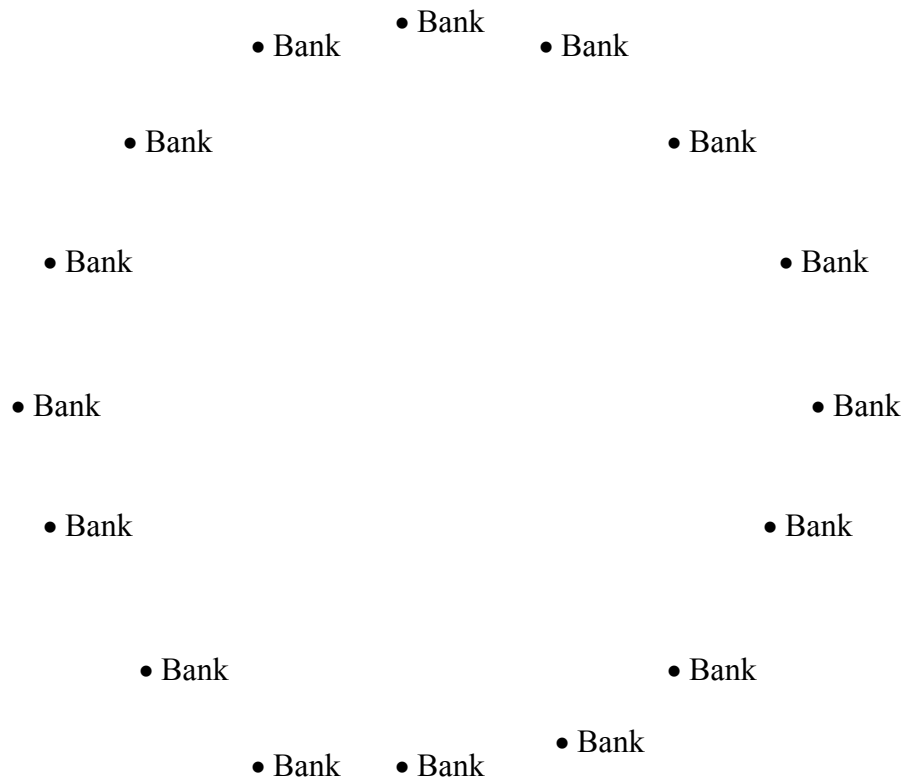
Borrower Cards

You want to borrow \$450	You want to borrow \$650
You want to borrow \$750	You want to borrow \$800
You want to borrow \$1,000	You want to borrow \$200
You want to borrow \$550	You want to borrow \$370
You want to borrow \$200	You want to borrow \$530

Activity 4

Check Clearing Without the Federal Reserve

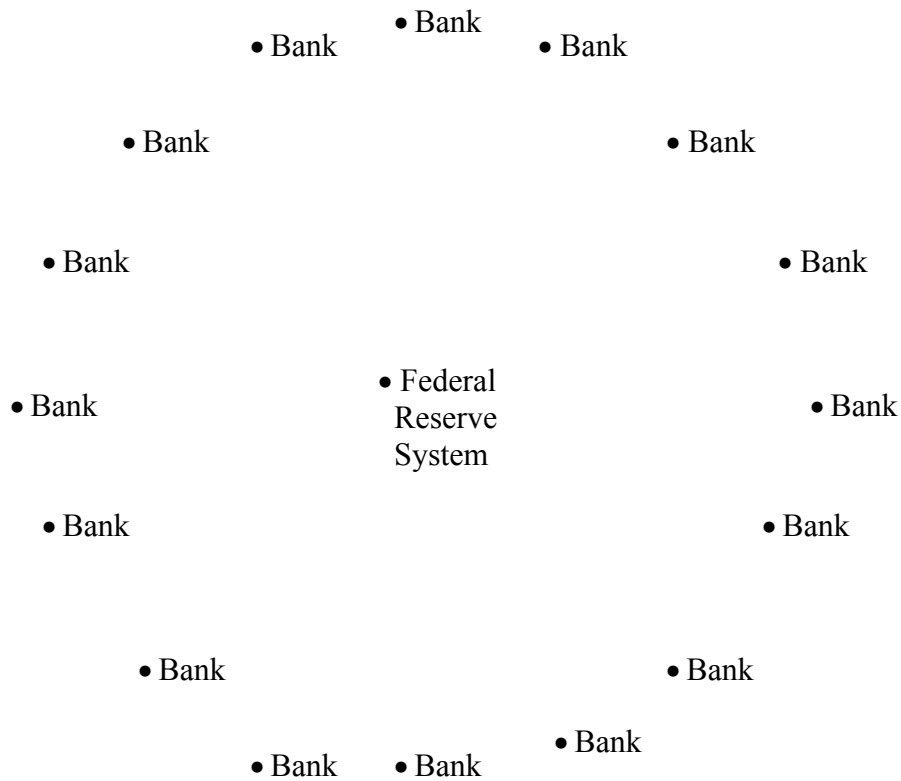
Can you imagine the confusion if every day thousands of banks had to send thousands of checks to thousands of other banks? To get an idea of how confusing that would be, assume that the 16 dots below are 16 banks. Each bank has to send at least one check to each of the other 15 banks. Draw lines from each bank to all the other banks to represent the movement of checks from one bank to another.



Activity 5

Check Clearing with the Federal Reserve

Let's try that activity again, but this time let's use the Federal Reserve System's clearinghouse to clear the checks. Each bank has to send at least one check to each of the other 15 banks through the Federal Reserve System's clearinghouse. Draw lines from each bank to all the other banks through the Federal Reserve System to represent the movement of checks from one bank to another using the clearinghouse.



Activity 6

At-the-Exhibit Activities

The Federal Reserve Bank of Philadelphia is one of the largest processors of checks in the Federal Reserve System. On a normal day, the Philadelphia Fed clears approximately 5 million paper checks. The check-clearing business is labor intensive and complex. Using the typical check-clearing process, it takes 13 distinct steps to clear a paper check. In the list below, those steps have been jumbled. Using the Check It Out station in the “Money in Motion” exhibit as a guide, put the check-clearing steps below in order by numbering the steps below. **Be sure you follow the typical check-clearing process.**

STEP #	STEP DESCRIPTION
	First National Bank credits the jewelry store’s account.
	The checks go to the high-speed processor for sorting.
	The Fed debits Center City Bank’s account for the total value of checks drawn on its customer’s account that day.
	Jeff Love writes a check from his account at Center City Bank to buy an engagement ring for his fiancée at a jewelry store in Delaware.
	Jeff Love receives his statement and checks in order to balance his checking account.
	The sorter reads the magnetic characters on the bottom of the checks and sorts together all checks drawn on Center City Bank.
	First National Bank encodes the amount on the face of the check and endorses the back.
	The Fed credits First National Bank for the checks deposited.
	The Fed receives the checks at the loading dock, places them on carts, and delivers the checks to the processing area.
	The jewelry store deposits the check in its account at the First National Bank in Radnor, PA.
	Center City Bank receives Jeff Love’s check and debits the amount from his account.
	First National Bank bundles its checks and sends them to the Federal Reserve Bank of Philadelphia.
	The checks are sent back to Center City Bank by courier.

Lesson: What Is the Federal Reserve?

Grades 6-8

“Money in Motion” Curriculum
Federal Reserve Bank of Philadelphia

Activity 6 (continued)

At-the-Exhibit Activities

Using the information on the “Then & Now” history wall, fill in the correct time that corresponds with each of the descriptions given below. Then, choose one of the images or dioramas from the panel on the history wall and describe it in the space given. The possible time periods are 1791–1811, 1816–1836, 1836–1860, 1861–1912, 1913–1914, 1930s, 1940s–1970s, 1960s–1980s, 1980s–2000.

TIME PERIOD	DESCRIPTION	IMAGE DESCRIPTION
	Congress expands the Fed’s role in consumer protection.	
	A more uniform currency emerges from the Civil War.	
	The Great Depression reshapes the role of government, the financial system, and the Fed.	
	State banks’ notes serve as currency, but also bring financial confusion.	
	Fed policy becomes independent and economic goals become clearer.	
	A penniless young country takes a tentative step into central banking.	
	Deregulation of banking reshapes the financial system and the Fed’s role.	
	Repeated financial failures prompt Congress to establish a decentralized central bank.	
	Central banking gets a second chance, but again it doesn’t last.	

Lesson: What Is the Federal Reserve?

Grades 6-8

“Money in Motion” Curriculum
Federal Reserve Bank of Philadelphia

Activity 6 (continued)

At-the-Exhibit Activities

Fill-in-the-Blank

Using the information you find in the “Money in Motion” exhibit, fill in the blanks in the following statements. The location in the parentheses following each statement tells you where in the exhibit to find the information you need to complete each statement.

1. The highest denomination note ever issued by the U.S. was the \$ _____ note.
(America’s Ever-Changing Money)
2. In an average year, the Philadelphia Fed destroys about \$ _____ worth of unfit currency—over \$ _____ a week! (In & Out)
3. The currency cart at the “Money in Motion” exhibit contains \$ _____ in new \$ _____ bills. (In & Out)
4. The average \$1 note is in circulation for less than _____ years, while a \$100 note may last for up to _____ years. (In & Out)
5. The Federal Reserve Bank of Philadelphia is responsible for the Third Federal Reserve District, which covers eastern _____, southern _____, and _____.
(The Fed Family—Federal Reserve Bank of Philadelphia)
6. Located in Washington, D.C., the Federal Reserve Board consists of _____ members—called _____—who are appointed by the President and confirmed by the Senate.
(The Fed Family—The Board of Governors)
7. The vaults at the Federal Reserve Bank of Philadelphia are each about the size of a _____.
On an average day, the vaults hold over \$ _____ in currency and coin. (Eye on the Money)
8. _____ bills on display at the “Money in Motion” exhibit are counterfeit. (The New Color of Money)
9. What are the three main functions of the Federal Reserve System? (Welcome-Benjamin Franklin)
 - a. _____
 - b. _____
 - c. _____
10. Which state quarter is currently available at the exhibit? _____
(Change for America)

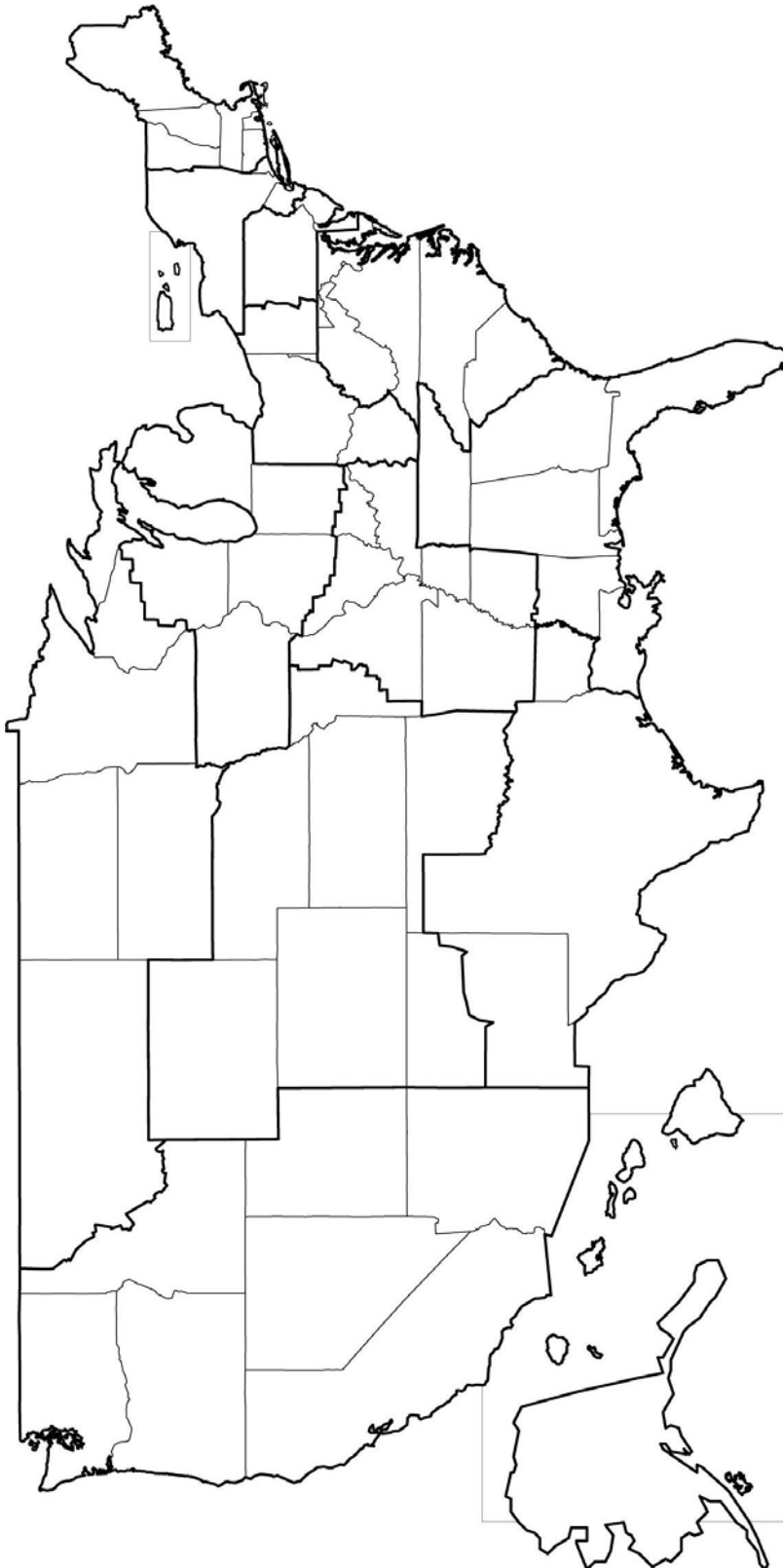
Lesson: What Is the Federal Reserve?

Grades 6-8

“Money in Motion” Curriculum
Federal Reserve Bank of Philadelphia

Activity 6 (continued)

At-the-Exhibit Activities



Using the information in the The Fed Family—The Federal Reserve System section of the “Money in Motion” exhibit, label the locations of the 12 Federal Reserve Banks on the map above. (*Be careful to locate and label the Banks and not the locations of the Branches.*) Use your highlighter to highlight the borders of all of the Federal Reserve Districts.

Lesson: What Is the Federal Reserve?

Grades 6-8

“Money in Motion” Curriculum
Federal Reserve Bank of Philadelphia

Activity 7

Loan Request Cards

Rob wants to borrow \$250 to buy a new bicycle so he can ride it to and from his early morning job delivering newspapers. He earns \$50 per week.



Sara wants to borrow \$2,000 to help her family buy a new computer. She earns \$5 per week for her allowance. She has a bicycle that cost \$500 when her grandparents bought it for her three years ago.



Cindy wants to borrow \$60 to buy a new outfit. She gets \$2 per week as an allowance. She owns a five-year-old bicycle and has \$15 in a savings account.



Ron needs a new pair of basketball shoes. He wants to borrow \$150 to buy them. He doesn't have a job and doesn't have any savings.



Sam wants to buy a new MP3 player for \$300. He has no savings and his parents have stopped his allowance for six months.



Amalia wants to borrow \$100 for a new pair of rollerblades. She earns \$10 per week babysitting her kid sister on Friday nights and has \$50 in a savings account.



Activity 8

Loan Application Worksheet

You are now loan officers at a bank. Your job is to decide whether to lend money to a borrower who has asked for a loan. First, decide on a name for your bank and write it in the blank provided below. Next, fill in the rest of the information you know about the borrower from the loan request card you were given. After you have filled in everything, decide whether to approve the borrower's loan. Assume that the interest rate is 0%. The loan will be repaid in 12 monthly payments.

Bank: _____

Borrower's Name: _____

Purpose of Loan: _____

	Amount
Borrower's Assets	\$ _____
Borrower's Weekly Income	\$ _____
Total Loan Amount <i>(Payable in 12 months)</i>	\$ _____
Monthly Payment	\$ _____

Write three questions that you would like to ask the borrower:

1. _____

2. _____

3. _____

Loan Approved?

Yes No

Reasons for loan approval or rejection:

Activity 9

Assessment: Structure and Functions of the Federal Reserve

Multiple Choice Questions

In the space to the left of each question, enter the best answer to the question.

- _____ 1. The Federal Reserve System has _____ Governors and _____ Reserve Banks.
- a. 12; 12
 - b. 9; 12
 - c. 7; 12
 - d. 7; 19
- _____ 2. Which of the following cities is not the home of a Federal Reserve Bank?
- a. Minneapolis
 - b. New York
 - c. Orlando
 - d. Dallas
- _____ 3. The geographic area served by the Federal Reserve Bank of Philadelphia is:
- a. Pennsylvania.
 - b. parts of Pennsylvania, parts of New Jersey, and all of Delaware.
 - c. New Jersey, Pennsylvania, and Delaware.
 - d. Pennsylvania and Delaware.

Checklist

Place a check mark in the blank next to each of the functions listed below that are carried out by the Federal Reserve System.

- _____ Clearing checks
- _____ Storing and distributing paper currency and coin
- _____ Printing paper currency
- _____ Insuring bank deposits up to \$100,000 per account
- _____ Supervising and regulating banks
- _____ Controlling the nation's money supply
- _____ Serving as the U.S. government's bank
- _____ Approving loans that banks make to individuals and businesses