**Aim: How does the Federal Reserve impact the economy?**

**Topic: The Federal Reserve, Banking System and the Money Multiplier**

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| --- | --- |
| **NYS Content Standards**   * Standard 4, key 1 * Standard 4, key 2 | **Common Core Skills**   * RH 1, 2, 3, 4, 5, 6, 8, * W 1, 2, 4, 5, 7, 8, 9, * SL 1, 2, 3, 4, * L 1, 2, 3, 4, |
| **Understandings:**   * Students will be able to understand and know… * Define the business of banks * Identify reasons why everyone should bank * Identify reasons why people do not bank * Analyze and evaluate outcomes when consumers decide to bank or not to bank * List and explain the services provided by banks and other financial institutions * Compare the difference between a credit union and a commercial bank * Describe ways banks help consumers manage their money * Analyze how banking needs change over a lifetime * Evaluate if a bank can help you manage your money * Explain the purpose of various banking forms and material * Summarize major points about banks and their services * Evaluate if savings or checking accounts are better * Identify/define – compound and simple interest * Identify the costs and benefits of saving, investing, and spending * Understand how banks operate within the Federal Reserve System (also built on previous lessons) * Understand the Fractional Banking System and Required Reserve Requirements * Define the money multiplier. * Explain how banks use your deposits to generate loans * Understand the differences between assets and liabilities (and why checking accounts are liabilities for banks) * Explain why banks want people to put money into savings and how banks try to encourage the practice * Understand the banks role in the economy and our role in the banking system | **Essential Questions:**   * What is a bank? * What is the difference between checking and savings? * What other forms of bank assets are available? * Why did many distrust banks after the Great Depression? * To what extent did the Federal Reserve exacerbate the Great * Depression * Why do many distrust banks today? * What information would you give to those who distrust banks today? * How would you describe bank services? * Why do you think a bank offers numerous services? * How would you describe bank accounts? * How would you describe loans? * How would you describe credit cards? * How would you describe investing in a bank? * How would you describe safe deposit boxes? * What is the difference between a bank and a credit union? * Why is it important that consumers shop around for banking services? * What type of banking services might a teenager need? * What type of banking services might a college student need? * What type of banking services might a newly wed couple need? * What type of banking services might a person who is about to retire need? * How would you describe savings accounts? * Why would a person want to open a savings account? * Which one do you think is the best option? * How would you describe checking accounts? * What is the main difference between a saving and checking account? * Why would you choose one over the other? * What are the responsibilities of someone with a checking account? * How would you describe a check? * Why do you think there are so many steps you must follow? * What are some advantages of paying with a check? * How would you describe saving? * Why is saving important? * How do you save? * How would you describe investing? * Why is investing important? * How do you invest? * How are saving and investing different? * How would you describe compound and simple interest? * How does interest affect the amount of money you save? * Why would some banks offer only one type of interest on accounts? * How does the Federal Reserve manipulate the banking system? * How do actions by the Federal Reserve affect our finances? * What part do we play in the economy through banks? * What is the money multiplier and how does it affect the economy? * How potent to the economy do you think the money multiplier is? * Why might some economists say it is more potent than others? |

**Motivation:**

* *Identify reasons why everyone should bank*
* *Identify reasons why people do not bank*

**Procedure #1:**

* *Compare and contrast different types of banks (commercial, credit union, etc.)*
* *Compare and contrast different ways to keep our money in banks (Savings Accounts, Certificate of Deposits, Checking Accounts, etc.) and evaluate which is the best.*
* *Why should people diversify how they keep their money?*
* *Which would banks prefer and why?*
* *Review and analyze the questions they should ask before selecting a bank*
* *Assess which bank meets their needs*
* *Evaluate if banks offer the services they need*
* *Evaluate which banks best services their interest*
* *Identify the costs and benefits of saving, investing, and spending*
* *Explain and make calculation using compound interest*

**Transition: Now let us take a look at how your banking actions are part of and affect the overall macro economy.**

**Notes:**

**Introduce important banking vocabulary:**

**Deposit** - Amount of money put into a bank (M1 or M2)

**Required Reserves** - Amount the FED forces banks to keep as cash reserves on hand and in their vaults. It is a certain percentage of your deposits. This percentage is set by the Federal Reserve.

**Excess Reserves** - Amount banks can lend out after their required reserves are kept aside.

**Federal Funds Rate** - the rate in which banks lend money to each other (changes when the FED changes monetary policy -- affected by the change in interest rates).

**Part 2: Banks balance sheet and the multiplier effect:**

**Notes: Balance Sheets**

Just like everyone, banks must balance the amount of money they have and the amount of money they own. A bank’s liabilities cannot exceed its assets.

1. **Assets:** anything owned by the bank or **owed to the bank** is an asset of the bank. Cash on reserve is an asset and so are loans made to citizens.
2. **Liability:** Anything owned by depositors or lenders to the bank is a liability. Checking deposits or loans made to the bank are liabilities to the bank.

***Task: look at the spread sheet and bank balance sheet worksheet and then answer the following questions and part 2b:***

1. *Why are reserve requirements and excess reserves assets?*
2. *Why is a loan an asset and a checking account a liability?*
3. *Why must a bank’s liabilities equal its assets?*
4. *How did the bank in this example balance its budget and increase its assets?*
5. *With this example, how can deposits in a bank create a multiplier effect?*

**Notes: Money Multiplier:**

In the previous example, the initial $1,000 deposit actually created $2,710 in checking deposits. The process could continue until there are no more excess reserves.

* **The Money Multiplier (also known as the deposit expansion multiplier)** = 1/required reserve ratio.
* **The change in the money supply** = money multiplier x change in (excess) bank reserves.

***Summary 1:*** *Have students review material and then pair share and explain multiplier effect in their own words.*

***Summary #2:*** *Distribute following questions:*

***2011 A #1***

Sewell Bank has the simplified balance sheet below.

|  |  |
| --- | --- |
| Assets | Liabilities |
| Required reserves $2,000  Excess reserves $0  Customer loans $8,000  Building and fixtures $3,000  Government Bonds $7,000 | Demand deposits $10,000  Owner’s equity $10,000 |

(a) Based on Sewell Bank’s balance sheet, calculate the required reserve ratio.

(b) Suppose that the Federal Reserve purchases $5,000 worth of bonds from Sewell Bank. What will be the

change in the dollar value of each of the following immediately after the purchase?

(i) Excess reserves

(ii) Demand deposit

(c) Calculate the maximum amount that the money supply can change as a result of the $5,000 purchase of bonds by the Federal Reserve.

(d) When the Federal Reserve purchases bonds, what will happen to the price of bonds in the open market? Explain.

(e) Suppose that instead of the purchase of bonds by the Federal Reserve, an individual deposits $5,000 in cash into her checking (demand deposit) account. What is the immediate effect of the cash deposit on the M1 measure of the money supply?

***2011 B #2***

*Suppose that the Federal Reserve purchases $5,000 worth of bonds from Sewell Bank. What will be the*

*change in the dollar value of each of the following immediately after the purchase?*

*(i) Excess reserves*

*(ii) Demand deposit*

*Calculate the maximum amount that the money supply can change as a result of the $5,000 purchase of bonds by the Federal Reserve with a money multiplier of 5*

***Student Personal Finance Reflection: Find three banks and compare and contrast their savings accounts, certificate of deposit accounts and checking accounts and complete the questionnaire sheet.***

**Teacher Reflection:**

* **Ability to complete review handout accurately**
* **Amount of points earned on AP practice questions.**
* **Ability to understand financial literacy terms and apply it to their personal finance reflection.**

**Handout #1:**

**Why Bank?**

**A. Banks**

A bank is an organization, usually a corporation, chartered by a state or federal government. The purposes of banks are to be a business which sells financial services, manages money, brings borrower and depositors together, creates a safe place for people to keep money, earn interest and establish credit. Today, banks are supervised and regulated. (Prior to FDR’s New Deal they were not.) Deposits up to $250,000 are insured by the Federal Deposit Insurance Corporation, or FDIC. Most, but not all, banks are insured by the FDIC.

*What is a bank?*

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**B. The Great Depression and Distrust in Banks**

In the early years of the Depression, banks with loans to investors in the stock market were immediately at risk.  During the 20s, there was an average of 70 banks failing each year nationally. After the crash during the first 10 months of 1930, 744 banks failed – 10 times as many. Bank deposits were uninsured and thus as banks failed people simply lost their savings. Throughout the 1930s over 9,000 banks failed. Surviving banks, unsure of the economic situation and concerned for their own survival, stopped giving new loans. Of the more than 25,000 banks in business in 1929, fewer than 15,000 survived to 1933. It's estimated that 4,000 banks failed during 1933 alone. By 1933, depositors saw $140 billion disappear through bank failures.

*Why did many distrust banks after the Great Depression?*

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**C. Distrust in Banks Today**

Roughly 8% of America's 115 million households don't have a bank account.

“…the Securities and Exchange Commission show that ‘79 percent of investors have no trust in the financial system.’ As for the rest of us Americans, that confidence in big banks has eroded as well, they report, from the 1970s when 3 in 5 Americans trusted big banks to 1 in 4 in 2012. Why this suspicion? Think back over the past few years during which we witnessed the following banking scandals—or dare we say it, crimes:

• The manipulation of the London Interbank Offered Rate (LIBOR), which allowed certain banks to illegally earn billions at the expense of governments, citizens, even other financial organizations.

• JPMorgan lost $2 billion due to improper trading by the very unit responsible for managing risk (deciding if this is a good business decision) at the bank. Reportedly, numerous shareholders have even filed suit alleging the bank misled them in financial statements.

• The U.S. and Mexican units of HSBC have been accused of funneling $881 million in drug cartel money. The British-based bank, Europe’s largest, agreed to pay a minimum $1.9 billion to settle the probe and basically defer the charges.

• Standard Chartered, another U.K.-based bank, agreed to pay $327 million for alleged violations of U.S. sanctions against Iran, Libya, and other nations.

• A trader at Memphis-based Morgan Keegan allegedly cost investors an estimated $1 billion through illegal “price adjustments” made to hide losses.”

- *Memphis Flyer* (January 2013)

*Why do many distrust banks today?*

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**Handout #2:**

**Savings and Checking**

**A. Savings Accounts**

Savings accounts are accounts maintained by retail financial institutions that pay interest but can not be used directly as money. These accounts let customers set aside a portion of their liquid assets while earning a monetary return. Below are different types of savings accounts

Bank Savings Accounts:

When you are beginning to save, you should place your money in investments that are as safe as possible.  In addition, you will likely always have at least some of your money in short-term investments.  Bank savings accounts are such an investment.  The federal government backs these accounts with what is known as Federal Deposit insurance Corporation (FDIC) Insurance.

CD or Certificate of Deposit:

The bank holds your money for a set period of time, usually one to six months, or one to five years.  Unlike a normal savings account, you may not withdraw your money at any time.  If you do, you will be subject to withdrawal fees.

*How would you describe savings accounts?*

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**B. Checking Accounts**

A checking account is a deposit account held at a bank or other financial institution, for the purpose of securely and quickly providing frequent access to funds on demand, through a variety of different channels. Because money is available on demand these accounts are also referred to as demand accounts or demand deposit accounts. Transactional accounts are meant neither for the purpose of earning interest nor for the purpose of savings, but for convenience of the business or personal client; hence they tend not to bear interest. Instead, a customer can deposit or withdraw any amount of money any number of times, subject to availability of funds.

*How would you describe checking accounts?*

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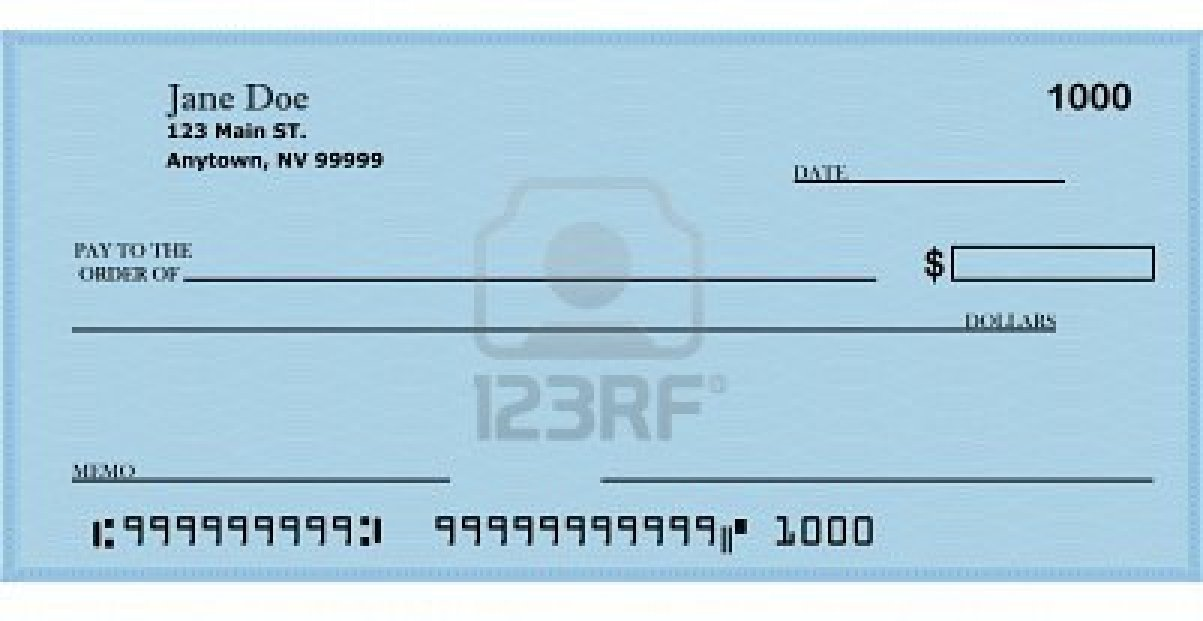
**C. Checks**

A check is a written order to a bank to pay a stated sum from the drawer’s account and is only available with a checking account. When writing a check there are important steps to remember:

* Write clearly with blue or black ink
* Don’t leave any space blank
  + Checks should always be dated
  + Checks must be endorsed (signed)
* When mistakes are made, the check should be voided. (Write VOID across the check and keep it in order to avoid confusion)
* Before writing a check, make sure there is enough money in the account to cover the check. If you don’t the bank will charge you a fee.
* Keep a record of the check. (In the register or keep a copy of the check)
* You should never give a blank check to anyone.

*How would you describe a check?*

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**D. Online Banking**

Online banking (or Internet banking or E-banking) allows customers to conduct financial transactions on a secured website operated by a financial institution.

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| --- | --- |
| **Positives** | **Negatives** |
| **Convenience:** Unlike your corner bank, online banking sites never close; they're available 24 hours a day, seven days a week, and they're only a mouse click away.  **Ubiquity:** If you're out of state or even out of the country when a money problem arises, you can log on instantly to your online bank and take care of business, 24/7.  **Transaction speed:** Online bank sites generally execute and confirm transactions at or quicker than ATM processing speeds.  **Efficiency:** You can access and manage all of your bank accounts, including IRAs, CDs, even securities, from one secure site.  **Effectiveness:** Many online banking sites now offer sophisticated tools, including account aggregation, stock quotes, rate alerts and portfolio managing programs to help you manage all of your assets more effectively. Most are also compatible with money managing programs such as Quicken and Microsoft Money. | **Start-up may take time:** In order to register for your bank's online program, you will probably have to provide ID and sign a form at a bank branch. If you and your spouse wish to view and manage your assets together online, one of you may have to sign a durable power of attorney before the bank will display all of your holdings together.  **Learning curve:** Banking sites can be difficult to navigate at first. Plan to invest some time and/or read the tutorials in order to become comfortable in your virtual lobby.  **Bank site changes:** Even the largest banks periodically upgrade their online programs, adding new features in unfamiliar places. In some cases, you may have to re-enter account information.  **The trust thing:** For many people, the biggest hurdle to online banking is learning to trust it. Did my transaction go through? Did I push the transfer button once or twice? Best bet: always print the transaction receipt and keep it with your bank records until it shows up on your personal site and/or your bank statement. |

*How would you describe online banking?*

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**Handout #3: Banks balance sheet and the multiplier effect:**

**Important banking vocabulary**

**Deposit** - Amount of money put into a bank (M1 or M2)

**Required Reserves** - Amount the FED forces banks to keep as cash reserves on hand and in their vaults.

**Excess Reserves** - Amount banks can lend out after their required reserves are kept aside.

**Federal Funds Rate** - the rate in which banks lend money to each other (changes when the FED changes monetary policy -- affected by the change in interest rates).

**Part A: Balance Sheets**

Just like everyone, banks must balance the amount of money they have and the amount of money they own. A bank’s liabilities cannot exceed its assets.

1. **Assets:** anything owned by the bank or **owed to the bank** is an asset of the bank. Cash on reserve is an asset and so are loans made to citizens.
2. **Liability:** Anything owned by depositors or lenders to the bank is a liability. Checking deposits or loans made to the bank are liabilities to the bank.

**Task: look at the spread sheet worksheet and then answer the following questions and part b:**

***Step 1****: Mike takes $1000 from under his mattress, deposits it at a Chase Bank, and opens a checking account. If the required reserves rate is 10%, the bank must put $100 in required reserves, but the remaining $900 are excess reserves and can be either kept on reserve or lent.*

**Balance Sheet #1:**

|  |  |
| --- | --- |
| **Assets** | **Liabilities** |
| **Required Reserves:** $100 | **Checking Deposits:** $1,000 |
| **Excess Reserves:** $900 |  |
| **Total Assets:** $1,000 | **Total Liabilities:** $1,000 |

***Step 2:*** *The Chase bank lends all $900 in excess reserves to Thomas, a local farmer*

**Balance Sheet #2:**

|  |  |
| --- | --- |
| **Assets** | **Liabilities** |
| **Required Reserves:** $100 | **Checking Deposits:** $1,000 |
| **Excess Reserves:** $0 |  |
| **Loans:** $900 |  |
| **Total Assets:** $1,000 | **Total Liabilities:** $1,000 |

***Step 3:*** *Thomas uses his $900 at Tractor Supply, which has a checking account at the Chase Bank. Checking deposits have now increased by $900 and this is* ***new money.*** *The Chase Bank must keep $90 as required reserves and there is now $810 of excess reserves.*

**Balance Sheet #3:**

|  |  |
| --- | --- |
| **Assets** | **Liabilities** |
| **Required Reserves:** $190 | **Checking Deposits:** $1,900 |
| **Excess Reserves:** $810 |  |
| **Loans:** $900 |  |
| **Total Assets:** $1,900 | **Total Liabilities:** $1,900 |

***Step #4:*** *The Chase Bank makes a loan to James, who is looking to buy some furniture. James spends $810 dollars at Furniture Factory, which also banks with the Chase Bank, increasing checking deposits by $810. The Chase Bank must keep $81 in required reserves and there are now $729 in excess reserves*

**Balance Sheet #4:**

|  |  |
| --- | --- |
| **Assets** | **Liabilities** |
| **Required Reserves:** $271 | **Checking Deposits:** $2,710 |
| **Excess Reserves:** $729 |  |
| **Loans:** $1,710 |  |
| **Total Assets:** $2,710 | **Total Liabilities:** $2,710 |

1. **Why are reserve requirements and excess reserves assets?**
2. **Why is a loan an asset and a checking account a liability?**
3. **Why must a bank’s liabilities equal its assets?**
4. **How did the bank in this example balance its budget and increase its assets?**
5. **With this example, how can deposits in a bank create a multiplier effect?**

**Part 2b: Money Multiplier:**

In the previous example, the initial $1,000 deposit actually created $2,710 in checking deposits. The process could continue until there are no more excess reserves.

* **The Money Multiplier (also known as the deposit expansion multiplier)** = 1/required reserve ratio.
* **The change in the money supply** = money multiplier x change in **excess** bank reserves.
* **The change in total deposits =** money multiplier x **total deposits**

**\*\*Remember that required reserves only affect deposits and not open market operations\*\*\***

So, if the required reserve ratio was 10%, the money multiplier would be 10.

Then,

If open market operations led to an increase in bank reserves by $50 million dollars, the actual change in the money supply would be $500 million dollars.

**1) Explain in your own words the process of the money multiplier and its effects.**

**Questionaire Sheet:**

**Shopping for a Bank**

**A. Guidelines**

1. Name of bank: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. What types of accounts does this bank offer?

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3. Is there a minimum balance for accounts? (If so, what it it?)

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4. What sort of fees does it charge and for what?

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5. Can I do my banking online or over the phone?

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6. Is this bank better for business or personal accounts?

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7. What is in the fine print?

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8. Is the bank FDIC insured? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personal Questions:

9. What account do I need? Explain.

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10. Is the bank conveniently located close to home or work?

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