Personal Financial Literacy

7

Unit Overview

Being financially literate means taking responsibility for learning how to manage your money. In this unit, you will learn about banking services that can help you make choices about which financial institution is right for you. You will learn about managing money, using credit wisely, and planning for the future through savings. All those skills are part of personal financial literacy. You will discover how to apply your knowledge of mathematics to help you make wise decisions. As you continue through the unit, you will apply what you have learned to solve real-world financial problems.

Key Terms

As you study this unit, add these and other terms to your math notebook. Include in your notes your prior knowledge of each word, as well as your experiences in using the word in different mathematical examples. If needed, ask for help in pronouncing new words and add information on pronunciation to your math notebook. It is important that you learn new terms and use them correctly in your class discussions and in your problem solutions.

Academic Vocabulary

- savings account
- checking account
- debit card
- deposit
- withdrawal
- transfer
- credit card
- credit report

ESSENTIAL QUESTIONS

- How can you build a good credit history?
- How can being financially literate help you plan for college and your future?

Getting Ready

Write your answers on notebook paper.
Show your work.

1. Add or subtract.
- **a.** $\frac{2}{3} + \frac{1}{3}$
- **b.** $\frac{2}{3} - \frac{1}{3}$
- **c.** $\frac{5}{8} + \frac{3}{8}$
- **d.** $\frac{7}{8} - \frac{5}{8}$

2. Multiply.
- **a.** $4 \times \frac{1}{8}$
- **b.** $3 \times \frac{1}{3}$
- **c.** $5 \times \frac{7}{10}$

3. Write the letter for the fraction that is equivalent to $\frac{3}{4}$.

A. $\frac{3}{8}$ **B.** $\frac{6}{4}$ **C.** $\frac{6}{8}$

4. Multiply.
- **a.** 0.45×75
- **b.** $6\% \times 180$
- **c.** $8\% \times 1500$

5. Multiply. Describe any pattern you notice.
- **a.** 6×20
- **b.** 6×200
- **c.** 6×2000

6. Divide. Describe any pattern you notice.
- **a.** $7000 \div 10$
- **b.** $7000 \div 100$
- **c.** $7000 \div 1000$

7. Round each number to the nearest hundred. Explain the rounding rules you used.
- **a.** 26
- **b.** 349
- **c.** 457
- **d.** 650

8. Compute. Use what you know about order of operations.
- **a.** $0.07 \times 840 + 40$
- **b.** $50 + 8\% \times 720$

Using Financial Services

You Can Bank on It

Lesson 31-1 Understanding Bank Accounts

Learning Targets:

- Examine the features and costs of different types of bank accounts.
- Understand and use a bank account check register.

SUGGESTED LEARNING STRATEGIES: Close Reading, Marking the Text, Summarizing

Learning to manage your money is a skill that you will use throughout life. Many different financial institutions offer banking and other financial services, such as savings and investing accounts. Good money management is all about three things: earning money, saving money, and borrowing wisely.

Having a ***savings account*** or a ***checking account*** is a good way to learn about managing money. It pays to check your local financial institutions, because one may pay more or less interest than the other or charge higher fees for their services. Local financial institutions may be branches of national companies or smaller community banks, credit unions, or savings and loans.

Services	Local Credit Union	Local Bank	Local Savings & Loan
Checking account minimum to open, monthly fees	$100; $10 per month	$150; $5 monthly fee	$50; $5.95 per month
Number of free checks per month	No limit	$0.10 charge per check	Limit of 10 free checks/month; $0.15 thereafter
Interest paid on checking account	0.35%	No	0.4% with combined balances (savings and checking) of $500
Debit card	No fee	No fee	No fee
ATM fees outside network	No fee	$2.50	$2
Overdraft fee	$30	$20	$25

1. Which financial institution has the highest monthly costs for a checking account?

2. Which financial institution has the lowest requirement for opening a checking account?

3. **Apply mathematics in everyday life.** If you wrote 20 checks a month, what fees would you pay to each financial institution?

My Notes

ACADEMIC VOCABULARY

A ***savings account*** pays interest on the amount of money in the account. A ***checking account*** may or may not pay interest, depending on the bank or financial institution.

My Notes

ACADEMIC VOCABULARY

A ***debit card*** allows customers to withdraw cash from their accounts at ATM (automated teller machines) and pay for purchases at stores.

Most financial institutions offer free ***debit cards*** to their customers. A debit card works much like a check in that money is taken from the account to pay for the withdrawal or purchase immediately. While the debit card is usually free, fees may be charged if a withdrawal is made from another bank's ATM, called an out-of-network withdrawal.

4. **Communicate reasoning.** Look back at the table on the previous page. Which debit card would you be likely to choose? Why?

5. Compare the features of debit cards offered by each financial institution.

6. Overall, which bank would you be likely to choose? Explain why.

ACADEMIC VOCABULARY

A ***deposit*** is money added to an account. A ***withdrawal*** is money taken out of an account. A ***transfer*** moves money from one account to another; for example, from a savings account to a checking account.

Most financial institutions allow you to open both a checking and a savings account. You can transfer money back and forth between them. You will receive a monthly statement that shows your beginning and ending balances. It also shows ***deposits***, checks written on the account, ***withdrawals***, and ***transfers***. Interest earned will also appear on the statement.

To keep track of how much money you have in your checking account during the month, you would use a check register. Keeping track of your deposits and withdrawals helps you make sure you do not write a check without enough money in the account to cover it. This is known as an *overdraft* for which most banks charge high fees.

7. Use the information in the following check register to calculate the new account balance with each transaction.

Check Number	Date	Description	Check Amount/ Withdrawal	Deposit	Balance
					$287.95
	Mar 1	Allowance		$12.00	
201	Mar 8	Class trip	$15.00		
	Mar 12	High Five Sports (debit card)	$26.77		
	Mar 18	Babysitting		$24.00	
	Mar 21	Transfer to savings	$15.00		
	Mar 24	ATM withdrawal	$20.00		
202	Mar 28	Pet supplies	$8.46		
203	Mar 30	School supplies	$12.40		

My Notes

8. How many deposits were made in this month? What was the total amount deposited?

9. How many checks were written? What was the total amount?

10. What was the balance at the beginning of the month? At the end?

11. **Analyze mathematical relationships.** What mathematical operations do you use to balance a check register?

Check Your Understanding

12. What facts would you consider in choosing where to open a bank account?
13. Suppose Janice has a beginning bank balance of $467. She makes one ATM withdrawal for $30 and writes 4 checks for $16.80, $22.74, $12.38, and $14. What is her ending balance?
14. How does using a check register help you manage money?

LESSON 31-1 PRACTICE

15. Give examples of the types of fees that banks and other financial institutions charge for using their banking services.
16. **Use a problem-solving model.** If you have a beginning balance of $121.40 and you write checks for $23.50, $12.80, and $97.26, what will be your ending balance? What fees might the bank charge?
17. Complete the following check register.

Check Number	Date	Description	Check Amount/ Withdrawal	Deposit	Balance
					$282.94
	June 3	ATM withdrawal	$20.00		
	June 10	Yard work		$30.00	
412	June 15	T-Shirt Shop	$18.56		
413	June 20	Jeans Store	$22.28		
	June 25	ATM withdrawal	$20.00		
	June 26	Transfer to savings	$25.00		
414	June 30	Books & More	$12.44		

My Notes

Learning Targets:

- Identify the benefits and costs of credit cards.
- Understand credit history and how it applies to a personal credit score.

SUGGESTED LEARNING STRATEGIES: Close Reading, Marking the Text, Create Representations, Discussion Groups

ACADEMIC VOCABULARY

A ***credit card*** allows the user to postpone paying for purchases until receiving a monthly bill.

Using a ***credit card*** for a purchase is a form of borrowing. The card holder does not pay for the purchase until the card issuer sends a bill, which happens once a month. Credit cards offer convenience in buying items. For example, you may not have enough cash with you or you want to buy something and pay for it over a period of months.

Credit cards, however, carry very high interest rates, often 18 to 19% as an annual percentage rate. You will need to consider the interest you pay as part of the cost of what you're buying. However, if you pay off your total balance each month, there is no interest to pay.

1. Suppose you want to buy new shoes, but you do not have enough money saved. Your older brother agrees to buy the shoes and put them on his credit card. You plan to use part of your allowance each month to repay him.
   a. The shoes cost $35. If you pay your brother $8 when the credit card statement arrives, how much will you still owe him?

   b. **Select appropriate techniques.** Estimate how many months it will take you to repay your brother if you pay $9 per month after the first month.

   c. Calculate the total cost of your shoes, including simple interest of 18% for the number of months it will take you to repay your brother.

MATH TIP

Remember that the formula for simple interest is $I = R \times T$ (Interest = Rate times Time).

ACADEMIC VOCABULARY

A ***credit report*** contains a detailed list of a person's credit history prepared by a credit bureau and used by a lender to determine a loan applicant's creditworthiness.

Anyone who wants to use credit needs a good credit history. Almost everything you do involving money goes on record somewhere. That record is a ***credit report***, which is used to assign a credit score. A credit score is usually a number between 300 and 850. Scores of 700 and higher are considered good. Scores of 580 and lower are "poor" or "very poor."

If you have a high credit score, you can borrow money at the lowest interest rates. Lenders will consider you a good credit risk who will repay on time. If you have a low credit score, lenders will charge higher interest rates for loans or may be unwilling to loan money because you have a history of late payments. People with very low credit scores may not be able to get a credit card.

My Notes

Three nationwide agencies report on consumer credit. Everyone is entitled to a free credit report once a year. Information on the report includes the following:

- Public records, such as any fines remaining unpaid or late payments on utility bills, taxes, or city/local fees
- Late payments on loans, such as car loans or home mortgages
- Past-due or unpaid credit card payments, which might include payments to local stores or for items ordered online
- Accounts in good standing, which includes credit accounts for which all payments are up to date

Here are some ways to build a good credit record:

- Always pay bills on time. Even your monthly utility bill affects your credit score.
- Do not borrow or charge more than you can afford. Paying high interest rates on credit card balances can quickly increase the amount owed.
- Open a bank account before trying to get a credit card.
- Have different types of credit, such as a cell phone contract, credit card, and bank account.

2. What information in your credit report would be especially important to a lender?

3. Working in groups, create a short presentation that reflects your understanding of the information that goes on a credit report. Create a visual to support your presentation.

4. Why is your credit score important to you as a borrower?

MATH TIP

Information on a credit report is usually kept for 7 years. Information about bankruptcy may be kept longer.

Check Your Understanding

5. How long is information kept on a credit report?

6. How does your credit score affect the interest rates on a loan?

7. What can you do to build a good credit history?

LESSON 31-2 PRACTICE

8. Communicate reasoning. Explain why credit reports are valuable to both borrowers and lenders.

9. You have a credit card balance of $188, and you pay annual interest on the unpaid balance of 18%. If you pay $50 on your balance, how much interest will you pay for the next month on the remaining balance?

10. Compare the features of debit and credit cards.

My Notes

Learning Targets:

- Explain various ways to pay for a college education.
- Compare the annual salary of several occupations that require education or training beyond high school.
- Calculate the effects of different annual salaries on lifetime income.

SUGGESTED LEARNING STRATEGIES: Close Reading, Marking the Text, Create a Plan

As you dream about your future, what kind of job or career do you think you will want? Probably you will change your mind several times before deciding. One decision that will affect the kind of job you have and how much you earn is whether you go to college.

College costs can vary greatly depending on the type of school, such as public or private college, community college, university, or trade school. There are several ways to help pay for college.

- ***Savings:*** Many parents start saving for college when their children are small. Children also can start saving early by putting some of their allowance or cash gifts into savings. There are many types of college savings accounts. Some are offered by local banks or government agencies. Others are private, through insurance or investment companies.
- ***Grants and scholarships:*** Grants and scholarships are available from several different sources. The federal government provides Pell grants based on financial need, costs to attend school, and status as a full-time or part-time student. Other grants or scholarships may be available from the college itself or from alumni or community groups. Many are available for students with a special talent, such as sports or music. Others are given for high grades. Others may be based on financial need. Unlike student loans, grants and scholarships do not have to be repaid.
- ***Student loans:*** Like other kinds of borrowing, student loans must be paid back, with interest. Like any loan, it is important to "shop around" for low interest and other terms.
- ***Work-study:*** Once you are in school, many colleges offer work-study jobs. These jobs can give you experience in a field you are interested in. They may be on campus or in private companies. At the same time, the money you earn helps pay your costs.

1. What factors can earn you a grant or scholarship to help pay college costs?

My Notes

2. Explain the difference between taking out a student loan and paying with savings, work-study, and other options.

3. Assume that you are ready for college. You plan to go to a local college while living at home. The annual cost for tuition, fees, and books is $14,500. Also assume that you qualify for a Pell grant of $5,500 and scholarships of $1,500.
   a. If the rest of your cost must come from savings, how much savings do you need to pay for your first year?

   b. If fees and tuition increase by 4% each year, how much money would you need for four years of college? Round to the nearest whole dollar for each year's calculation before adding all years.

4. **Use a problem-solving model.** Assume that you work 12 hours a week through a work-study program and earn $7.50 per hour.
   a. How much would you earn per week?

   b. How much would you earn for two semesters of 16 weeks each?

   c. If you work 12 weeks during the summer and earn $9.50 per hour for a 40-hour week, how much would you earn during the summer?

My Notes

MATH TIP

Remember that a median is the middle number in a range of values.

5. The following table shows the median weekly earnings for people with different levels of schooling. Complete the table by calculating the increase in weekly income with each additional level of education.

Education Level	Median Weekly Income (2011)	Increase (in dollars)
Less than high school diploma	$451	--
High school graduate	$638	
Some college, no diploma	$719	
Associate degree	$768	
Bachelor's degree	$1053	
Master's degree	$1263	
Doctoral or professional degree	$1551–1665	

6. Use representations. What is the median increase in weekly income between a high school degree and a college (bachelor's) degree?

According to the U.S. Census Bureau, someone with a college degree will earn about $1 million more in a lifetime than someone with only a high school diploma. Consider the following statistics:

- The average total earnings for all people with a bachelor's degree is $2.4 million.
- Those with a professional degree, such as a doctor or lawyer, may earn about $4 million.

Actual income also depends on many other factors, especially the field in which one works. Graduates in business, science, and engineering earn higher incomes than those with other degrees.

7. What is the percentage difference between the lifetime incomes of people with a high school education and those with a bachelor's degree?

8. Research two or three jobs that interest you. Find out the education that is required as well as the salary ranges you can earn. Use the data to create a table.

My Notes

Check Your Understanding

10. Why is starting a college fund early a good idea?

11. Identify ways of paying for college without borrowing.

12. What are the drawbacks of taking out student loans?

13. How does additional education affect your earnings over a lifetime?

LESSON 31-3 PRACTICE

14. Communicate reasoning. Describe how work-study can help you both pay college costs and learn a profession.

Education Level	Median Weekly Income (2011)
Less than high school diploma	$451
High school graduate	$638
Some college, no diploma	$719
Associate degree	$768
Bachelor's degree	$1053
Master's degree	$1263
Doctoral/professional degree	$1551–1665

15. Use the weekly figures in the table above to calculate the median yearly incomes of these workers:
- **a.** High school graduate
- **b.** Bachelor's degree
- **c.** Professional degree

16. Compare the expected lifetime earnings for someone with a college degree versus someone with a high school degree.

ACTIVITY 31 PRACTICE

1. Explain the difference between a debit card and a credit card.
2. The balance in your checking account is $342.20. On September 3, you write Check 204 for $33.99 to a clothing store. Three days later you make a deposit of $24 for babysitting. On September 12, you take out $20 from an ATM to go to the movies. Fill in this check register to record those transactions. On September 25, you transfer $25 to savings. What is the new balance?

Check Number	Date	Description	Check Amount/ Withdrawal	Deposit	Balance
					$342.20

3. List four actions that can help you build a good credit history.
4. Explain the various ways that a family can pay for college without borrowing.
5. The median weekly income of someone who drops out of high school is $451. Someone with a bachelor's degree from college earns $1053 in that same week. Calculate each person's yearly income and then the difference between them.

MATHEMATICAL PRACTICES
Apply Mathematics to Everyday Life

6. Make the calculations needed to balance the account shown in this check register.
   a. How often did this person use a debit card? An ATM machine?
   b. What is the ending balance in this account?

Check Number	Date	Description	Check Amount/ Withdrawal	Deposit	Balance
					$420.75
300	June 6	Guitar lesson	$25.00		
	June 10	Bike repair (debit card)	$11.00		
	June 15	Allowance		$25.00	
	June 21	Ms. Soto (babysitting)		$22.00	
	June 22	Shoe Shoppe (debit card)	$19.99		
	June 25	ATM withdrawal	$20.00		
	June 25	Transfer to savings	$25.00		
301	June 30	B & B Books	$9.40		