

Lesson Description

This lesson includes an initial activity to introduce students to the unit on personal financial literacy. Students construct a KWL chart on what they know about money. Students revisit the chart at the conclusion of the unit.

The students learn about fixed and variable expenses. Given an appropriate grade level scenario, students identify fixed and variable expenses. They will calculate the total of fixed and variable expenses on a weekly basis, comparing the sum of fixed expenses with the sum of the variable expenses. Students then decide on a reasonable amount Buck's parents should increase his weekly allowance and support their argument with logical reasoning.

Texas Essential Knowledge and Skills (Target standards)

- **PFL Math 4.10A:** distinguish between fixed and variable expenses

Texas Essential Knowledge and Skills (Prerequisite standards)

- **Math 4.1:** Mathematical process standards
- **Math 4.4A:** add and subtract whole numbers and decimals to the hundredths place using the standard algorithm
- **Math 4.2C:** compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols $>$, $<$, or $=$

National Standards (Supporting standards)

- **CCSS Math:** Standards for Mathematical Practice
- **CCSS Math 4.OA:** Use the four operations with whole numbers to solve problems.
- **CCSS Math 4.NBT:** Use place value understanding and properties of operations to perform multi-digit arithmetic.

CEE - Council for Economic Education

CCSS - Common Core State Standards

Time Required

Two 45-minute classes

PFL Terms

- Fixed expenses
- Variable expenses

Materials Required

- Chart paper and markers or interactive white board
- Money: coins and bills
- Red colored pencil or crayon for each student
- Green colored pencil or crayon for each student
- A copy of **Activity 4.1-1** for each student
- A copy of **Activity 4.1-2** for each student
- A copy of **Activity 4.1-3** for each student
- Paper and pencil for each pair of students

Procedure

Unit engagement activity

1. Hold up real bills and coins in your hands for the class to see. *Class, who knows what I am holding? (coins and/or bills) From where does money come? What can you do with it? What do you really know about money?*
2. Tell the class that today they are going to begin learning about the power of money. *Let's see what you already know about money.*
3. Create a KWL chart on chart paper or on your interactive white board. Use the prompts listed below to lead discussion. Complete the K and W sections with your class. Record all students' ideas whether correct or not.

Money		
K What you know	W What you want to know	L What you learned
Money can look like.... Cash in bills and coins Debit cards Checks		
Money comes from.... Banks ATM machines Paychecks Federal Reserve		
Money can help me buy things like.... Food Clothes Entertainment Toys		
Money can get me into financial trouble by.... Borrowing money I can't repay		
Money can be saved and spent		

4. Save the KWL chart for an end of unit closure activity. Tell students that you will revisit their ideas and what they want to know after they have learned more about personal financial literacy.

Engage

5. Distribute **Activity 4.1-1** to each student. Tell students that they will be using Readers'

Theater to learn about fixed and variable cost. Assign the roles of Mr. Cash, a fourth grade teacher, and Buck, one of his students. Have those students read their parts of **Activity 4.1-1**.

6. After the students read the Readers' Theater on **Activity 4.1-1**, pose this question to students: *Using what Mr. Cash and Buck discussed, what do you think are fixed expenses?*
7. Allow time for students to discuss what they think might be fixed expenses and why are they called fixed. (***Fixed expenses are expenses that do not change from week to week or from month to month. They stay the same.***)

Explore/Explain

8. Direct students attention back to **Activity 4.1-1**. Instruct each student to use a red colored pencil or red crayon and underline all fixed expenses that Buck mentioned in his discussion with Mr. Cash. Accept all answers as long as each student can justify their response. For example, one student may state that a cell phone bill is a fixed expense because if you have unlimited minutes and text, the cost will remain the same each month. Another student may state that a cell phone bill is a variable cost if the consumer does not have unlimited minutes and text. One month the consumer may have additional charges for going over the limit. For months where the consumer does not exceed these limits, the cost will be less. Ask students if they spend the same each day for their school lunch. Discuss that for some students this may not be a fixed expense. In Buck's case this is a fixed expense because he spends \$2.00 each day for lunch.
9. *Are there expenses that Buck mentioned that you did not underline? (yes) Which ones? (Possible responses are: food for Sparky, snacks, game room, movies, and bike repair) Why aren't they considered fixed expenses? (These are expenses that change from week to week or month to month. They may or may not occur on a regular basis.)* Ask students to explain why Sparky's food expense might change week to week. (***The cost may change if you use a coupon or if there is a sale.***)
10. Write the word VARY on the board. Tell students that expenses that are not fixed expenses vary. *These expenses are called **variable expenses**.* Write variable expenses on the board. *What are variable expenses? (Variable expenses are expenses that change from week to week or month to month. They may or may not occur on a regular basis.)*

Elaborate

11. Direct students' attention back to **Activity 4.1-1**. Instruct each student to use a green colored pencil or green crayon and underline all variable expenses that Buck mentioned in his discussion with Mr. Cash. (***Students should underline food for Sparky, snacks, game room, movies, and bike repair in green.***)
12. Once students can distinguish the difference between fixed and variable expenses, distribute **Activity 4.1-2**. Tell students that Mr. Cash asked Buck to create a list of expenses. Based on this list, have the students determine if the expenses for Buck are variable or fixed. (In the previous activity, students were allowed to determine if the expense was variable or fixed based on their experience. They should now use context clues to determine Buck's situation. Buck's expenses are listed at the top of the page.

13. Do you notice anything about Buck's expenses? (**Some items are per day, others are per week or per month**) Have students use the box with equation outlines to help them convert daily and monthly expenses into weekly expenses.

Evaluate/End

14. Distribute **Activity 4.1-3** to students and have them use the information given in **Activities 4.1-1** and **4.1-2** to complete the chart on Buck's weekly expenses. Direct the students to sort the list into fixed and variable expenses and write the weekly cost to the right of each item.
15. Students determine the sum of each column and answer the questions below the chart.
16. To reinforce the idea of fixed and variable expenses, have students work with a partner to list three examples of fixed expenses that a responsible adult may have. Also list three examples of variable expenses that a responsible adult may have. (**Examples of fixed expenses: rent, mortgage, car payment, insurance, retirement savings. Examples of variable expenses: gasoline, utilities, clothing, dining out, entertainment**)
17. Have a few students share their lists. Ask the class if they agree or disagree with the expenses listed and justify their responses. In closing ask: *What are fixed expenses? (**Fixed expenses are expenses that do not change from week to week or from month to month. They stay the same.**) What are variable expenses? (**Variable expenses are expenses that change from week to week or month to month. They may or may not occur on a regular basis.**)*

EXTENSIONS

1. Have students write a letter either to Buck's parents persuading them to increase Buck's allowance or to Buck encouraging him to reduce his spending. Tell students that they should use the terms variable expenses, fixed expenses, and saving in their letter.
2. Buck's variable expenses are greater than his fixed expenses. Do you think the same is true for adults? Explain why or why not. Support your answer with real-world examples.

Activity 4.1-1

Name _____ Class Period _____

Directions: Your teacher will assign the roles for Mr. Cash, a fourth grade teacher, and Buck, one of his students. Those students will have an opportunity to practice reading their parts first for the Readers' Theater below and then they will read them for the class. Listen to directions from your teacher.

MR. CASH: Now class, you have told me what you already know about money. What do you want to learn about money?

BUCK: Mr. Cash, I have something I'd like to learn.

MR. CASH: What would that be?

BUCK: My parents give me \$20.00 each week to spend. I have to pay for my school lunches, my Scout dues, and food for Sparky, my dog. They also expect me to pay \$12.00 each month toward the cost of my cell phone. It sounds like I get a lot of money, but there is nothing left for the extra things I *want* to do. Last week I went to the movies, bought an after-school snack on three days and went to the game room with my friends on Friday. Then my bike had a flat tire and had to be fixed. I had to beg my parents for the extra money. My parents want me to be more responsible with my money. How am I going to learn to manage money if I don't ever have any money left over to manage and I have to ask them for anything extra that comes up?

MR. CASH: It sounds like the money you get is all going toward your fixed expenses.

BUCK: What are fixed expenses?

Activity 4.1-2

Name _____ Class Period _____

Below are Buck's expenses.

- School lunch - \$2.00 per day
Buck eats in the cafeteria every day.
- After-school snack – about \$2.00 per day for 3 days
- Game room – about \$5.50 per visit
- Buck's portion of family cell phone bill - \$12.00 per month
- Boy Scout dues - \$1.50 per week
- Sparky's food – about \$5.50 per bag
Sparky eats 1 bag each week.
- Bike repair – about \$10.00
- Movies – \$5.50 per movie

Directions: Calculate Buck's weekly expenses for the items below. You may need to refer back to Activity 4.1-1 to find missing information.

CONVERTING DAILY AND MONTHLY EXPENSES INTO WEEKLY EXPENSES

1. School lunch $\frac{\text{_____}}{\text{Daily cost}} \times \frac{\text{_____}}{\text{Number of school days}} = \frac{\text{_____}}{\text{Weekly expense}}$

2. Cell Phone Bill $\frac{\text{_____}}{\text{Monthly cost}} \div 4 \text{ weeks per month} = \frac{\text{_____}}{\text{Weekly expense}}$

3. After school snacks $\frac{\text{_____}}{\text{Daily cost}} \times \frac{\text{_____}}{\text{Number of Days}} = \frac{\text{_____}}{\text{Weekly expense}}$

Activity 4.1-3

Name _____ Class Period _____

Directions: Complete the chart below by sorting Buck's fixed and variable expenses. List the weekly cost to the right of each expense. When all the expenses are listed, find the sum of each column.

Buck's Weekly Expenses

FIXED EXPENSES	Weekly Cost	VARIABLE EXPENSES	Weekly Cost
Boy Scout dues	\$1.50		
Total		Total	

1. Compare the sum of Buck's fixed expenses with the sum of his variable expenses. Write a mathematical comparison statement. Be sure to use greater than, less than or equal to symbols. Then write the statement in words using the terms *fixed expenses* and *variable expenses*.

2. What would be a reasonable amount for Buck's parents to increase his weekly allowance? Why do you think this?

Key 4.1-2

Name _____

Class Period _____

Below are Buck's expenses.

- School lunch - \$2.00 per day **F**
Buck eats in the cafeteria every day.
- After-school snack – about \$2.00 per day for 3 days **V**
- Game room – about \$5.50 per visit **V**
- Buck's portion of family cell phone bill is \$12.00 per month **F**
- Boy Scout dues - \$1.50 per week **F**
- Sparky's food – about \$5.50 per bag
Sparky eats 1 bag each week. **V**
- Bike repair – about \$10.00 **V**
- Movies – \$5.50 per ticket **V**

Directions: Calculate Buck's weekly expenses for the items below. You may need to refer back to Activity 4.1-1 to find missing information.

CONVERTING DAILY AND MONTHLY EXPENSES INTO WEEKLY EXPENSES

$$1. \text{ School lunch } \frac{\$2}{\text{Daily cost}} \times \frac{5}{\text{Number of school days}} = \frac{\$10}{\text{Weekly expense}}$$

$$2. \text{ Cell phone bill } \frac{\$12}{\text{Monthly cost}} \div 4 \text{ weeks per month} = \frac{\$3}{\text{Weekly expense}}$$

$$3. \text{ After school snacks } \frac{\$2}{\text{Daily cost}} \times \frac{3}{\text{Number of Days}} = \frac{\$6}{\text{Weekly expense}}$$

Key 4.1-3

Directions: Complete the chart below by sorting Buck's fixed and variable expenses. List the weekly cost to the right of each expense. When all the expenses are listed, find the sum of each column.

Buck's Weekly Expenses

FIXED EXPENSES	Weekly Cost	VARIABLE EXPENSES	Weekly Cost
Boy Scout dues	\$1.50	After-school snacks	\$6.00
School lunches	\$10.00	Game room	\$5.50
Cell phone bill	\$3.00	Bike repair	\$10.00
		Movies	\$5.50
		Sparky's food	\$5.50
Total	\$14.50	Total	\$32.50

- Compare the sum of Buck's fixed expenses with the sum of his variable expenses. Write a mathematical comparison statement. Be sure to use greater than, less than or equal to symbols. Then write the statement in words using the terms *fixed expenses* and *variable expenses*.

\$14.50 < \$32.50, fixed expenses are less than variable expenses

- What would be a reasonable amount for Buck's parents to increase his weekly allowance? Why do you think this?

Answers may vary but should be reasonable.