Lesson Plan: Budgeting, Debt & Savings Interest
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Grade: 7th grade Math (could be used for 6th and 8th grade, too)

Goal: To have the students understand how money really works – and how having a budget can help them avoid bad debt/credit issues.

Objective: At the end of the lesson, students will be able to create a personal budget and understand how to calculate savings account interest.

Materials: Overhead, paper, worksheets   **Time Span:** 2 days

DAY 1

Warm-Up questions – refresher on percentages

Hook: Using several clippings from newspapers about consumer debt, etc – have a brief discussion regarding their understanding and definition of debt and credit.

Instruction: Use a pre-pared overhead transparency to show the official definition of debt, and then go into a discussion of how a budget can help you avoid debt. Also discuss the differences between variable and fixed expenses. Then use handout and work with the class a simple monthly budget for "Michael". Walk around the room to assist them with questions. Hand out worksheet #1 for homework. Through the use of this worksheet students will create a personal budget for themselves.

DAY 2

Warm-up Questions – one is a simple percentage problem – one relates to yesterday activity.

Use overhead to review debt definition. Then ask class about definition of credit. Then have brief discussion of good vs. bad credit. Then go into examples of buying a home over 30 years and over 20 years. Then work with students together to calculate a car loan and how much money banks make when you borrow money.
Use that to lead into you making your own money in a savings account. Show formula to calculate interest.
And with class help – we solve the "Mary" situation on overhead regarding her savings account.
Worksheet will be handed out with a savings scenario – students will be given class time to work on it – what ever not finished will be homework.

teachers.net Gazette

Day 1 – Warm-Up Questions

1. 40% of $2,500.00
2. Re-write 23% as a fraction and a decimal

Day 2 – Warm-Up Questions

1. What is the difference between fixed and variable expenses?
2. What is 6% of $1,200.00?

Debt

An amount owed to a person or organization for funds borrowed. Debt can be represented by a loan note, bond, mortgage or other form stating repayment terms and, if applicable, interest requirements. These different forms all imply intent to pay back an amount owed by a specific date, which is set forth in the repayment terms.

Credit

A contractual agreement in which a borrower receives something of value now and agrees to repay the lender at some later date.

BUDGET

For the month, Michael earned $864 and tracked expenses for the month to help create a monthly budget. Fill out the table below using the expenses Michael tracked. Then total fixed and variable expenses. Also calculate total expenses. Was income greater than or less than expenses for the month?

Expenses: Food shopping $104, Donations $22, Going to the movies $34, Rent for an apartment $259, New shoes $58, Video games $50, Income tax $322, Gas bill $86

Category	Fixed	Variable
EXPENSES:		
Taxes		
Rent/Mortgage		
Utilities		
Groceries/Food		
Clothing		
Shopping		
Entertainment		
Miscellaneous/Other		
EXPENSES SUBTOTAL		
TOTAL EXPENSES (Fixed + Variable)		

Name _____

Period _____

Money Instructor

Date _____

Budget - Fixed and Variable Expenses

A good way to make sure you have enough money to spend and save is to use a **budget**. A budget helps you make sure your **income** matches your **expenses**. A budget also helps you with **saving** money.

Each month, you may receive income from the job you have, and interest from the money you save. Also each month you will have expenses. There are two main types of **expenses**, fixed expenses and variable expenses. **Fixed expenses** tend to be about the same each month, for example rent. **Variable expenses** tend to fluctuate each month, such as clothing.

One good way to create a budget is to track your income and expenses for one month, by keeping track of each type of expense and if that expense is a fixed expense or variable expense. For the month, Michael earned $864 and tracked expenses for the month to help create a monthly budget. **Fill out the table below using the expenses Michael tracked. Then total fixed and variable expenses. Also calculate total expenses. Was income greater than or less than expenses for the month?**

Expenses: Food shopping $104, Donations $22, Going to the movies $34, Rent for an apartment $259, New shoes $58, Video games $50, Income tax $322, Gas bill $86

Category	Fixed	Variable
EXPENSES:		
Taxes		
Rent/Mortgage		
Utilities		
Groceries/Food		
Clothing		
Shopping		
Entertainment		
Miscellaneous/Other		
EXPENSES SUBTOTAL		
TOTAL EXPENSES (Fixed + Variable)		

ANSWERS

Category	Fixed	Variable
EXPENSES:		
Taxes	$322	
Rent/Mortgage	$259	
Utilities	$86	
Groceries/Food	$104	
Clothing		$58
Shopping		$50
Entertainment		$34
Miscellaneous/Other		$22
EXPENSES SUBTOTAL	$771	$164
TOTAL EXPENSES (Fixed + Variable)	$935	

Income - Expenses = $864 - $935 = ($71)

Name: _____
Date: _____
Period: _____

<u>**BUDGET – YOUR MONEY MATTERS**</u>

Use the following information to create and calculate your own budget in the chart provided.

- You just graduated from high school and you got a job as a Call Center Representative making $21,081 a year or $1646.71 a month (after taxes, etc taken out of your check).
- You and three of your friends are sharing the rent on a 4-bedroom apartment – which is $1,199.00 a month.
- You MUST put 5% of your monthly income into a savings account.
- Your budget may NOT be negative (debt).
- Ask you parents/relatives how much is reasonable for your other monthly expenses. (remember – you are splitting some of these expenses with your roommates!)
- List if the expense is fixed or variable.
- Show your work on the back (or a separate piece of paper)

Transaction Description	Deposit (+)	Withdrawal/Debit (-)	F/V
Paycheck/month	$	$	
Rent			
Electricity - Utilities			
Water - Utilities			
Car Payment			
Car Insurance			
Gas - Car			
Food - Grocery Store			
Food - Eating Out			
Entertainment (Movies, etc)			
Clothes shopping			
Cell Phone			
Savings = 5%			
TOTAL EXPENSES			
TOTAL INCOME			

ANSWERS (SOME MAY VARY – RED WILL NOT VARY)

Transaction Description	Deposit (+)	Withdrawal/Debit (-)	F/V
Paycheck/month	$1646.71	$	
Rent		299.75	F
Electricity - Utilities		50	F
Water - Utilities		20	F
Car Payment		250	F
Car Insurance		100	F
Gas - Car		200	F
Food - Grocery Store		250	F
Food - Eating Out		100	V
Entertainment (Movies, etc)		100	V
Clothes shopping		75	V
Cell Phone		100	F
Savings = 5%		82.34	F
TOTAL EXPENSES		1626.34	
TOTAL INCOME	1646.71		

Debt

An amount owed to a person or organization for funds borrowed. Debt can be represented by a loan note, bond, mortgage or other form stating repayment terms and, if applicable, interest requirements. These different forms all imply intent to pay back an amount owed by a specific date, which is set forth in the repayment terms.

Credit

A contractual agreement in which a borrower receives something of value now and agrees to repay the lender at some later date.

Good Credit vs. Bad Credit

Buying a House
Price = $100,000
Borrow at 5.75% for 30 years
Monthly Mortgage = $583.57

$583.57 X (30 X 12) = $210,085.20
(does not include taxes and homeowners insurance)

Borrow at 5.75% for 20 years
Monthly Mortgage = $702.08

$702.08 X (20 X 12) = $168,499.20
(does not include taxes and homeowners insurance)

Difference of $41,586.00

If you borrow $12,000 for a used car with an interest rate of 11% for four years and a monthly payment of $310.15 – How much will you pay after the four years is up?

$310.15 x (years) (months) = Total Payment

$310.15 (4) (12) = $14,887.20

$14,887.20 - $12,000 = $2,887.20

Savings

Interest

The return earned on an investment.

Mary wants to save for retirement. She is going to put $60/week in her savings account. The bank pays 6% interest each year on savings deposits.

Principal (P) = Mary's deposits
Interest (I) = amount banks pays Mary
Time (t) = Years money in bank
Rate(r) = Interest rate

$$I = Prt$$

In this formula, we're multiplying the amount of Mary's deposit by the interest rate and the number of years she keeps her money in the bank. *Interest* (I) equals *principal* (P) multiplied by the *rate of interest* (r) and the *time in years* (t). To learn the amount Mary's money will earn the first year, these are the numbers we plug into the formula:

Principal = $3,120 ($60 per week x 52 weeks)
Rate of interest = .06 (6%)
Time in years = 1 year

If we plug these numbers into the formula we get:

$3120 x **.06** x **1** = **$187.20**

At the end of the first year, Mary's money will have earned $187.20 in interest. She now has more than the $3,120 she deposited. Her total saved at the end of the first year: $3,307.20.

How much did Mary earn after two years of savings?

P=$3120+3307.20 = $6427.20

r= 6%   t=1

6427.20 (.06) (1) = $385.63 + 6427.20 = $6812.83

After 35 years = $368,537.10

Deposited $109,200 Earned $259,337.10

Name: _____
Date: _____
Period: _____

<u>SAVINGS – IT'S YOUR MONEY!</u>

Use the information below to see how much money you will have in savings every year until you graduate from high school.

- You want to save up your money now – so that you can buy yourself a nice car when you graduate from High School. So you decide to save $30 a month every year starting in 7th grade – until you graduate.
- The savings account you use gives you an interest rate of 5% APR
- Formula to use is I = P (r) (t)
- How much money will you have after saving for 6 years?
- Show your work on the back (or a separate piece of paper)

Year	Beginning Amount	Interest Rate	Annual Interest	End-of-year- Amount
7th Grade		5%		
8th Grade		5%		
9th Grade		5%		
10th Grade		5%		
11th Grade		5%		
12th Grade		5%		

ANSWERS

Year	Beginning Amount	Interest Rate	Annual Interest	End-of-year-Amount
7th Grade	360	5%	18	378
8th Grade	738	5%	36.90	774.90
9th Grade	1134.90	5%	56.75	1191.65
10th Grade	1551.65	5%	77.58	1629.23
11th Grade	1989.23	5%	99.46	2088.69
12th Grade	2448.69	5%	122.43	2571.12