

Lesson/Unit Title	The Game of LIFE – on a Budget
Day(s)	5 days
Grade Levels	10-12
Curriculum Areas	Personal Finance
Website(s)	<p>http://www.download-free-games.com/board_game_download/game_of_life.htm Free PC version download of the popular board game!</p> <p>www.italladdsup.org “Module 3—Budget Odyssey” game!</p> <p>http://www.moneyopolis.com/new/home.asp Moneyopolis</p>
Teacher Resources	<ul style="list-style-type: none"> • Copies of Bell Ringer Worksheets/Handouts • “Budgeting” PowerPoint • Milton Bradley’s “The Game of LIFE” board game or on-line downloadable trial version available at: <p>http://www.download-free-games.com/board_game_download/game_of_life.htm</p> <ul style="list-style-type: none"> • Computer Lab with Spreadsheet Software available. • (optional) Calculator to perform mathematical applications • “<i>Takin’ Care of Business</i>” Education Handbook from the American Institute of Certified Public Accountants
Unit Overview	<p>The unit focuses on preparing personal monthly, yearly, and long-term budgets by using basic math operations. Students begin by playing “The Game of Life” (either the actual Milton Bradley board game or its online version) as a starting place to develop a spending/savings plan. From the results of their play/game, they will use estimating skills to create a monthly budget.</p> <p>Students will be able to identify examples of income, fixed expenses and variable expenses and evaluate spending patterns.</p>
Nebraska Frameworks Essential Learnings	<p>Business Administration (Pages 45-46) Economics and Personal Finance BE 12.5.1 Students will understand basic economic and financial principles in order to make wise domestic and global economic decisions related to their personal financial affairs, the successful operation of organizations and the economic activities of the country. They will demonstrate competency by applying economic and personal financial reasoning to individual, business and government practices.</p>
Link to Nebraska Standards	<p>Mathematics</p> <ul style="list-style-type: none"> • Students will justify solutions to mathematical problems. (12.2.2) • Students will perform estimations and computations of real numbers mentally, with paper and pencil, and with technology. (12.2.3)

<p>NBEA Curriculum Standards</p>	<p>Personal Finance: (Pages 63-67) III. Managing Finances And Budgeting</p> <p>Level 1: Performance Expectations</p> <ul style="list-style-type: none"> • Identify various sources of money for personal spending • Construct and use a personal spending/savings plan and evaluate it according to short- and long-term goals <p>Level 2: Performance Expectations</p> <ul style="list-style-type: none"> • Identify ways in which individuals and families obtain financial resources • Categorize expenses as fixed or variable • Classify periodic expenses as fixed or variable • Determine discretionary income in a spending plan <p>Level 3-4: Performance Expectations</p> <ul style="list-style-type: none"> • Compare a personal spending plan with typical consumer spending as a tool for determining individual financial goals <p>Describe how income and spending patterns change throughout the life cycle for the typical person and family</p>
<p>National Economics Standards</p>	<p>Standard 1: Scarcity Standard 3: Allocation of goods and services</p>
<p>National Personal Finance Standards</p>	<p>Standard 2: Money Management</p>
<p>Nebraska Math Standards</p>	<p>12.2 Computation/Estimation 12.2.1 Solve theoretical and applied problems using numbers in equivalent forms 12.2.2 Justify solutions to mathematical problems 12.2.3 Perform estimations and computations of real numbers, mentally, with paper and pencil, and with technology</p>
<p>Teaching Strategies, Procedures and Activities</p>	<p>Day 1 Students will describe the purpose of a personal budget and define/identify parts of a budget. Step 1: Bell Ringer – “Plan to Save” Worksheet Step 2: Discuss with students what it takes to “save” each month. Ask – <i>Where does your money come from? How much money do you spend each day? In a month? What expenses repeat each month? What spending do you have that is unexpected? Do you have money to pay for those unexpected expenses?</i> Explain that it takes planning to live with our earnings/means. Step 3: Play “The Game of LIFE” (use the board game or an on-line version available at http://www.download-free-games.com/board_game_download/game_of_life.htm) and have students record each transaction that occurs for every round of the game. (Assignment 1 – Part 1) Play as many rounds as time allows so there is time at the end of the class period to record the final transaction and put the game away.</p>

Step 4: Assignment 1 – Part 2: Organize the results of the game and write a summary of the income and expenditures using vocabulary terms for this unit.

Day 2 Students will list the steps in budget preparation.

Step 1: Bell Ringer – Use Computers to go on line to “**Budget Odyssey**” at www.italladdsup.org (Module 3)

Step 2: PowerPoint Lecture – (Fox-Budgeting PowerPoint.ppt) Purpose of a personal budget and budget preparation. Pass out to each student a copy of the PowerPoint with missing information on each slide. Engage students in active learning by having them fill in the blanks as the lecture continues.

Step 3: Demonstrate the steps to prepare a budget using the PowerPoint slides and a spreadsheet software program.

Step 3: Assignment 2: Using the information from the LIFE game, prepare a monthly budget determining sources of income, fixed expenses and variable expenses in an Excel spreadsheet.

Day 3 Students will explain the benefits of creating a monthly and/or annual budget.

Step 1: Bell Ringer – Math Review: Converting Decimals to Percents & Calculating Percent Increase

Step 2: Demonstrate math necessary to calculate percentage increases from one year to the next.

Step 3: Assignment 3: **Jack and Diane’s Budget** – a 10-year comparison of two high school graduates—one starts a job right out of high school and one goes to college. Working in pairs, students create a budget in Excel, enter formulas for calculating the net gain/loss for each year and for calculating the percent increase in income and expenses over the 10-year period. Analyze the budget to determine which path would be the student’s preferred path and present the findings to the class.

Day 4 Students will create personal budget projections comparing the economic and lifestyle consequences of going to college versus going directly into the workforce from high school.

Step 1: Bell Ringer - “*Check Your Budget.*” Students will identify parts of a budget from types of income & expenses written on slips of paper passed out at the door. Once students are in class, ask them to sort themselves into two groups: one for expenses; one for income. After that group is identified, ask the expenses to sort themselves into variable and fixed expenses and/or income could be sorted into earned and unearned income groups.

Step 2: Vocabulary Review using income and expenditures from the Jack and Diane’s budget

Step 3: Complete Assignment 3: Jack and Diane’s Budget

	<p>Day 5 Outcome: The students will analyze a personal budget to determine net gain or loss.</p> <p>Step 1: Teams will have 15 minutes to finalize Assignment 3 Assessment and plan for their presentation. Step 2: Each team will present their analysis of the Assignment 3 Budget project to the class.</p>
<p>Assignments</p>	<p>Assignment 1: Play “The Game of LIFE” and record each income or expense for a determined amount of rounds. Using the vocabulary terms presented in class, organize and summarize the results of the game in a written report.</p> <p>Assignment 2: LIFE Game monthly budget</p> <p>Assignment 3: Jack & Diane’s 10-Yr Budget Analysis Project</p>
<p>Math Applications</p>	<p>Day 2 – Steps in Preparing a Budget Math Applications Assignment 2 – Prepare a Budget</p> <p style="text-align: center;">Building a Budget Using Microsoft Excel</p> <p>Income = Add all the different forms of income during the time period. Cell References used in these problems not exact. . EXCEL FORMULA - =SUM(A2:A6)</p> <p>Expenses = Add all the different expenses encountered in the time period. EXCEL FORMULA - = SUM(A9:A18)</p> <p>Savings = TOTAL INCOME – TOTAL EXPENSES EXCEL FORMULA=A7 – A19</p> <p>Day 3 – Bell Ringer reviews basic math operations:</p> <p>Converting Percents To Decimals Step 1. Drop the percent symbol Step 2. Move the decimal point two places to the left. This is same as dividing by 100. Add zeros if necessary.</p> <p>Calculating Percent Increases Step 1. Convert the percent to a decimal by moving the decimal two places to the left. Step 2. Multiply original amount times (1 + the percent increase in decimal form)</p> <p>Assignment 3 – Jack & Diane’s Budgets Parts I & II EXCEL FORMULA = B4 *1.xx (xx = percent converted to a decimal)</p>

Assessment	Students will be assessed in the following areas:	
	Lesson/Unit Evaluation Criteria	
	Points	
	Student “bell ringer(s)”	10
	Student participation/presentation	10
	Assignment 1: The Game of LIFE Summary	10
	Assignment 2: Preparation of a Budget	20
	Assignment 3: Jack and Diane’s Budget	40
	Mathematical applications related to unit	10
	Unit Possible Points	100
Grading Scale:		
A = 90 - 100		
B = 80 - 89		
C = 70 - 79		
D = 60 - 69		
F = 0 - 59		
Instructor comments:		
Teacher	Lisa Fox	
School	Hitchcock County Unified School District, Trenton, Nebraska	

The Game of Life On A Budget
Day 1 – Bell Ringer

A PLAN TO SAVE

Most of the long-term goals you have (such as education beyond high school, a new car, a house, raising a family, etc.) all will take money. You need to have a plan for acquiring this money and create a savings plan. Saving for the future takes a lot of careful planning and controlled spending.

Consider “Ben,” who would like to save \$100 per month to apply toward the purchase of a car. Ben’s income and spending in the past month are below. Use this information to answer the questions:

Plan To Save			
Ben’s Income and Spending			
Ben’s Income		Ben’s Spending and Expenses	
Wages after taxes	\$2400.00	Rent	\$300.00
Interest Earned	\$ 10.52	Utilities	\$142.11
		Food	\$289.58
		Clothing	\$128.33
		Transportation	\$464.29
		Loan Payments	\$425.00
		Entertainment	\$115.98
		Insurance	\$241.53
		Other	\$277.77

1. How much was Ben’s income? **\$2,410.52**
2. How much did Ben spend? **\$2,384.59**
3. Can Ben save \$100 per month? **No. There is only \$25.93 left at the end of each month**
4. Which types of spending could Ben adjust? Not adjust?

Adjustable: Utilities, Food, Clothing, Entertainment, Other

Not Adjustable: Rent, Transportation, Loan Payments, Insurance

5. What recommendations could you make to Ben to help him reach his goals?

Monitor what money is being spent on in the “Other” category and see if there are expenses that could be eliminated. Cut down on the food bill – watch for sales, etc. Cut the utility bill by turning off lights, turning up the air/down the heat.

Adapted from: Contemporary Economics Personal Finance Guide, William A. McEachern, Thomas South-Western, 2005

The Game of Life On A Budget Unit
Day 1 – Play the Game of LIFE

Assignment 1 – Recording Transactions & Summarizing the Game of LIFE

Part 1

You and a partner will be a team to play the Game of LIFE. During the game you will keep track of all money transactions including any income that you receive and any expenses that you pay out. Use the chart below to record each round:

ROUND	Transaction	Income	Expense	Balance
<i>Sample</i>	<i>Pay Day</i>	\$90,000		\$90,000
<i>Sample</i>	<i>Auto Insurance</i>		\$2, 500	87,500
ROUND 1				
ROUND 2				
ROUND 3				
ROUND 4				
ROUND 5				
ROUND 6				
ROUND 7				
ROUND 8				
ROUND 9				
ROUND 10				

Part 2

Answer the following questions:

1. How much income did you receive during the game?
2. What were your total expenses?
3. What was your largest expense?
4. What was the most unexpected transaction for your team? Were you financially prepared?
5. Did you purchase insurance coverage? What type of expense would this be? Fixed or variable?
6. What advantages would there be to “playing” the stock market?

SUMMARY

Write a brief summary of your LIFE experience using these vocabulary terms presented in class!

Consumer Interest Consumption Disposable Income Expenses Savings

The Game of Life On A Budget Unit
Day 3 – Bell Ringer

Math Review: Converting Percents to Decimals & Calculating Percent Increase

Converting Percents To Decimals

REVIEW

Step 1. Drop the percent symbol.

Step 2. Move the decimal point two places to the left.

This is the same as dividing by 100. Add zeros if necessary.

Examples $.82\% = .0082$ $3\% = .03$ $10\% = .10$

PROBLEMS

1. $5\% = .05$ 2. $7.8\% = .078$ 3. $11\% = .11$

Calculating Percent Decreases and Increases

REVIEW

Step 1. Convert the percent to a decimal by moving the decimal two places to the left.

Step 2. Multiply the original amount times (1 + the percent increase in decimal form)

Examples

#1 - Your boss gives you a 10% increase in your yearly salary of \$12,000.

10% converted to a decimal = .10

$$\$12,000 \times (1 + .10) = \qquad \$12,000 \times 1.10 = \qquad \$13,200$$

#2 - Next year, utilities are expected to increase 2.5%. Utilities this year were \$2,400.

2.5% converted to a decimal = .025

$$\$2,400 \times (1 + .25) = \qquad \$2,400 \times 1.25 = \qquad \$3,000$$

PROBLEMS

1. Your cell phone carrier plans to increase rates by 4% to cover the cost of new cell towers in the area. You pay \$50 per month now. What will your new monthly rate be?

4% converted to a decimal is .04

$$\mathbf{\$50 \times (1 + .04) = \qquad \$50 \times 1.04 = \qquad \$52.00 \text{ per month}}$$

2. The cost of living is expected to increase by 3% each next year. If your current living expenses including fixed and variable expenses total \$36,000. What will be your total estimated expenses next year?

3% converted to a decimal is .03

$$\mathbf{\$36,000 \times (1 + .03) = \qquad \$36,000 \times 1.03 = \$37,080}$$

Adapted from problems and examples in “Practical Business Math Procedures”, Eighth Edition, McGraw-Hill, 2006

The Game of Life On A Budget Unit

Day 3

Assignment 3 – Lesson 2 Budgeting & Forecasting, “*Takin’ Care of Business Education Handbook*,” American Institute of Certified Public Accountants

(Excel Spreadsheet Template and Answer File Attached with this assignment)

Budgeting & Forecasting Project

“Forecasting Your Future” – Jack & Diane’s Budgets

Who Will Have More Money in the Bank at the Tenth Year Class Reunion? - Jack or Diane

PART I – The First Four Years Out of High School

Jack and Diane graduate from high school the same year. Jack begins a full-time job, starting at \$19,900, and keeps his part-time job (where he earns an additional \$1,500 a year). Feeling flush, Jack

- moves into his own apartment
- buys a new car (\$400 a month for four years)
- purchases \$1,000 worth of new clothing, and
- goes on a one-week vacation to Florida.

Diane heads to Florida as well – to college, where

- tuition for the first year is \$13,500
- a room in a dormitory costs \$7,000
- she work all 12 weeks of the summer for \$350 per week
- enters a work-study program at her school
- wins a partial scholarship and qualifies for financial aid.
- she sells her car for \$1,000 and spends the money on clothes (\$250 per year)

Use the **Jack & Diane Budget.xls Excel file** to complete Year 1 - 4 of the spreadsheet below:

You will need to enter formulas to calculate Total Revenue, Total Expenses, Savings/(Debt) and Cumulative Savings.

For Jack’s Budget:

Total Revenue (Cell B9)	=	SUM(B4:B9)
Total Expenses (Cell B22)	=	SUM (B13:B22)
Savings/(Debt) (Cell B24)	=	B10 – B23
Cumulative Savings (Cell B26)	=	Year 1 = B25 Year 2 = B27+C25 and so on for following years
Increase in Expenses (All expense cells Year 2 – 10)	=	(B13* % given)+B13

Revenue increases 3% each year over the prior year and all expenses, except the car payment, increase 4% each year (over the prior year).

For Diane’s Budget: Use the same formulas as above to setup Diane’s budget.

Revenue remains constant each year and expenses increase 2% each year.

“Forecasting Your Future” – Jack & Diane’s Budgets

PART II - Forecast Years 5 Through 10

Diane graduates from college and lands a job with an accounting firm, starting at \$35,000 a year. Diane gets her own place, buys a new car, takes a vacation, and can now spend more money on new clothes. Use this information to complete Year 5 of the spreadsheet, then forecast revenue and expenses for both Jack and Diane up to the point they meet again at their tenth-year high school reunion, making the following assumptions:

For Jack:

Same assumptions since graduating from high school.

For Diane:

Revenue increases 10% each year over the prior year and all expenses, except the car payment, increase 4% each year over the prior year. Assume that the car payment remains constant and is made for four years, starting with Year 5.

PART III – Assessment

Write a brief explanation of the effect savings and debt have on Jack and Diane’s net worth, and the effect that each might have on their respective lifestyle option in the future.

Answer the following questions:

1. In what year is the disparity in savings/debt the largest? **(Year 4)**
2. In what year does Diane accumulate savings equal to that of her high school classmate? **(Year 9)**
3. Which student will save \$100,000 first? **(Diane)**
4. Compare “Year 4” and “Year 10” for both Jack and Diane. What trend do you see developing? **(Diane is accumulating greater savings than Jack.)**
5. In addition to understanding how your net worth can fluctuate, state your opinion on the value of an education in the long run.

The Game of Life On A Budget
Day 4 - Bell Ringer

Cut apart the slips of paper and hand one to each student as they enter the classroom.

OPTIONS FOR USING

Tell the students to hang their slip on the board under the proper budget category – income, variable expense or fixed expense.

OR

Have students move into groups of the budget categories. Have all income students move to one side of the room, all expense students move to another part of the room. Then further divide the class into fixed and variable expense groups. Revenue could be divided into earned income and unearned income.

Money earned from job at convenience store	Money spent on a backpack for school
Allowance	Money spent on new shoes for athletics
Money spent going to the movies	Money spent on gas to drive to school
Money spent on clothes	Money Grandpa & Grandma gave you for your birthday
Interest earned on your savings account	Dividends paid to you from your Disney stock
Money spent at the pop machine for Gatorade after sports practice	Money earned mowing the neighbor's lawn
Money earned babysitting the neighbor's kids	Taxes

