

# Project: Comprehensive Budget

**SUBMITTED BY:** Nina Hoe, University of Pennsylvania

**SUBJECT(S):** Computation

**GRADE LEVEL(S):** 9, 10, 11, 12

## ≡ OVERVIEW:

In this lesson, students build upon the previous 4 lessons on saving, spending, simple and compound interest. With this knowledge, they work in small groups to create a comprehensive budget for different individuals based on different yearly earnings. Additionally, students will make decisions about large purchase items such as vehicles, homes, vacations, etc. The class will finish with a discussion of small group findings/decision making.

## ≡ RELATED ARTICLES:

- [“The Power of Plastic: What to Know about What You Owe”](#)
- [“Olivia Mitchell on Why Young Consumers Should Just Say No to Spending”](#)
- [“Mobile Payments: A Cautionary Tale”](#)
- [“Educator Toolkit: Spending and Budgeting”](#)
- [“Budgeting Basics: Spending Less than You Earn”](#)

## Standards:

### WGYP:

- Mathematical Foundations
- Number Relationships
- Patterns, Functions, and Algebra
- Problem Solving

### Common Core:

A-SSE.1. Interpret expressions that represent a quantity in terms of its context

A-CED.1. Create equations and inequalities in one variable and use them to solve problems.

*Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*

**Objectives/Purposes:** The purpose of this project is for students to think about what they have learned in the past 4 lessons and apply this knowledge to creating a comprehensive budget and making decisions for individuals with a given salary.

### Knowledge@Wharton Articles:

- [“An End to the Golden Years: Increasing Longevity Changes the Work-leisure Equation”](#)
- [“How Much Money Will You Need for Retirement More Than You Think”](#)

### Other Resources/Materials:

Calculators

Small Group/Pair Activity:

### Student Worksheet

Have students read the Wharton Global Youth Program article [“The Paycheck Breakdown: What You Earn Is Not What You Keep.”](#) Based on this article and the knowledge gained from the past week, students will complete a comprehensive budget for 3 individuals with different salaries. Students fill in the budget sheet with appropriate amounts given the salaries and answer questions about other large purchases.

For the purposes of this exercise, assume that raises and bonus are cancelled out by inflation.

Assume that individuals begin working at age 22.

***(Split students into three groups and have each group plan a budget for each individual. Allow students to use the Internet to find or verify information.)***

Students should be prepared to answer questions about cost estimates.

**Individual #1:**

Salary = \$40,000/year

State = Oregon

Desired Retirement Age = 65

	Monthly Cost	Yearly Cost
Food, electricity and gas bills		
Rent or mortgage payment		
Gas (auto) or public transportation		
Medical insurance		
Emergency fund		
Telephone and Internet service		
Credit card debt		
Water/trash service		
Child care		
Auto insurance		
Car payment		
Union dues		
Clothing		
Life insurance		
Cable service		
Savings		
Recreation/vacation		
Other:		
<b>Total</b>		

1. This individual wants to buy a home.
  1. After how many years would you recommend this person buy a home?
  2. How much should this home cost?
  3. Calculate a 30-year mortgage using the compound interest formula for an interest rate of 6.7%. How much will this person be paying per month? Is this feasible?
2. This individual wants to get a new car every 10 years.
  1. How much can he/she afford to spend on a new car? (make sure to calculate the interest owed for a car loan)

2. How long will it take this person to pay off the loan?
3. How often can this person afford to take a vacation? How much should be spent on the vacation?

**Individual #2:**

Salary = \$100,000/year

State = Massachusetts

Desired Retirement Age = 60

	Monthly Cost	Yearly Cost
Food, electricity and gas bills		
Rent or mortgage payment		
Gas (auto) or public transportation		
Medical insurance		
Emergency fund		
Telephone and Internet service		
Credit card debt		
Water/trash service		
Child care		
Auto insurance		
Car payment		
Union dues		
Clothing		
Life insurance		
Cable service		
Savings		
Recreation/vacation		
Other:		
<b>Total</b>		

1. This individual wants to buy a home.
  1. After how many years would you recommend this person buy a home?
  2. How much should this home cost?

3. Calculate a 30-year mortgage using the compound interest formula for an interest rate of 6.7%. How much will this person be paying per month? Is this feasible?
2. This individual wants to get a new car every 10 years.
  1. How much can he/she afford to spend on a new car? (make sure to calculate the interest owed for a car loan)
  2. How long will it take this person to pay off the loan?
3. How often can this person afford to take a vacation? How much should be spent on the vacation?

**Individual #3:**

Salary = \$80,000/year

State = Florida

Desired Retirement Age = 70

	Monthly Cost	Yearly Cost
Food, electricity and gas bills		
Rent or mortgage payment		
Gas (auto) or public transportation		
Medical insurance		
Emergency fund		
Telephone and Internet service		
Credit card debt		
Water/trash service		
Child care		
Auto insurance		
Car payment		
Union dues		
Clothing		
Life insurance		
Cable service		
Savings		
Recreation/vacation		
Other:		

Total		
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2. This individual wants to get a new car every 10 years.
  1. How much can he/she afford to spend on a new car? (make sure to calculate the interest owed for a car loan)
  2. How long will it take this person to pay off the loan?
3. How often can this person afford to take a vacation? How much should be spent on the vacation?

### **Tying It All Together:**

Have students present their budgets. Display them around the room and have students look critically at each other's budgets. Do they make sense? Discuss.

### **What worked and What I Would Do Differently:**

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