

2015

**DURHAM INTERMEDIATE
SCHOOL**

**STOCK MARKET
CHALLENGE**

Including 7th and 8th grade financial literacy TEKS

The 2015 Durham Intermediate Stock Market Challenge

**Connecting students to the global economy with virtual investing
and real-world learning.**

Overview

Welcome to the Stock Market Challenge! Your team's goal is to make the most money possible before the end date of the challenge: May 27, 2016.

Your team will purchase a portfolio of 10 stocks from the given list. Your portfolio includes:

- 2 Consumer Stocks
- 3 Services Stocks
- 2 Technology Stocks
- 1 Financial Stock
- 2 additional stocks from any category

Your team will buy \$10,000 of each of the 10 companies you choose (total of \$100,000). The purchases will be made at the close of business on October 16, 2015.

Each week your team will update the individual stock prices to determine your new total dollar amount. You will be given the opportunity to make three trades during Trade Week, approximately halfway through the challenge.

Who may participate:

- Mr. Mangham's math students will enter as teams of 4 or 5
- Any other DIS math student, group of students, or class of students may enter
- Parents or siblings of students may enter individually or as a family
- DIS teachers and staff may enter individually or as a group



The 2015 DIS Stock Market Challenge

What is the stock market?

The stock market is an everyday term we use to talk about a place where stocks are "traded" – meaning bought and sold. For many people, that is the first thing that comes to mind for investing. The goal is to buy the stock, hold it for a time, and then sell the stock for more than you paid for it.

How long do you hang on to stock?

Investors who hold stock for 15 years or more usually succeed in the market. Stocks are long-term investments. But there are no guarantees.

What are stocks?

Stocks are units of ownership in a company. Businesses raise money by selling stock to people. Companies sell stock to get money to –

Research better ways to make things, Create new products, Improve the products they have, Hire more employees, Enlarge or modernize their buildings

How does it work?

When you buy stock, you become a shareholder, which means you now own a "part" of the company. If the company's profits go up, you "share" in those profits. If the company's profits fall, so does the price of your stock. If you sold your stock on a day when the price of that stock falls below the price you paid for it, you would lose money.

In the stock market, prices rise and fall every day. When you invest in the stock market, you are hoping that over the years, the stock will become much more valuable than the price you paid for it.

What does it mean if one stock is at a higher price than another stock?

It means absolutely nothing. You cannot compare prices of different stocks to tell which one is doing better.



Taken from: <http://www.themint.org/kids/>

THE STOCK MARKET

In the US, companies can either be PRIVATE or PUBLIC. Most of the big companies that you know of are PUBLIC (McDonalds, Microsoft, Coca-Cola, Wal-Mart, etc.) There are some big companies that are PRIVATE (M&M/Mars, LL Bean, Fry's, Enterprise Rent-A-Car). Private companies are owned by individuals or groups – therefore, you cannot buy stock in a private company. You can own stock in any public companies as these types of companies are owned by the shareholders. If you buy 1 share of stock in McDonalds, then you own a little bit of McDonalds (there are more than a billion shares of McDonalds, so you don't own very much, but you do own a little!!!)

In the US, almost all companies trade their stock on one of two stock exchanges – the New York Stock Exchange (NYSE) or the NASDAQ. For our purposes, it does not matter which one any company trades on as they all look the same as we do our research.

While companies stocks trade up and down, there are 3 major stock averages that people in the US follow. These averages tell us how the whole stock market is doing – they do not tell us anything about an individual stock. The first average is called the Dow Jones Industrial Average. It is the most popular and it is made up of 30 stocks of major companies (Home Depot, Verizon, Intel, Exxon Mobil, etc.). Currently this average is around 17,000. The second average is called the NASDAQ Composite. It is made up of all of the stocks which trade on the NASDAQ (currently over 4000). Currently this average is about 4,800. The final average is called the S&P 500. It is made up of 500 of the largest companies in the US. Currently this average is about 2,000.

COOL TEAM NAME: _____

NAME(S): _____

Stock Choices: Place an X in the boxes of the 10 stocks your team wishes to purchase.

2 Consumer, 3 Services, 2 Technology, 1 Financial, 2 Any Category

| CONSUMER | | SERVICES | | TECHNOLOGY | |
|--------------------------|----------------------|--------------------------|------------------------|--------------------------|----------------------|
| <input type="checkbox"/> | CPB Campbell Soup | <input type="checkbox"/> | FOX 21st Century Fox | <input type="checkbox"/> | ADBE Adobe |
| <input type="checkbox"/> | CLX Clorox | <input type="checkbox"/> | BABA Alibaba | <input type="checkbox"/> | AAPL Apple |
| <input type="checkbox"/> | COH Coach | <input type="checkbox"/> | AMZN Amazon.com | <input type="checkbox"/> | T AT&T |
| <input type="checkbox"/> | KO Coca-Cola | <input type="checkbox"/> | AAL American Airlines | <input type="checkbox"/> | CSCO Cisco |
| <input type="checkbox"/> | CL Colgate-Palmolive | <input type="checkbox"/> | BBY Best Buy | <input type="checkbox"/> | EA Electronic Arts |
| <input type="checkbox"/> | FL Foot Locker | <input type="checkbox"/> | CCL Carnival | <input type="checkbox"/> | FB Facebook |
| <input type="checkbox"/> | F Ford | <input type="checkbox"/> | CMG Chipotle | <input type="checkbox"/> | GOOG Google |
| <input type="checkbox"/> | GIS General Mills | <input type="checkbox"/> | COST Costco | <input type="checkbox"/> | HP Hewlett Packard |
| <input type="checkbox"/> | GM General Motors | <input type="checkbox"/> | EBAY Ebay | <input type="checkbox"/> | IBM IBM |
| <input type="checkbox"/> | GPRO GoPro | <input type="checkbox"/> | EXPE Expedia | <input type="checkbox"/> | INTC Intel |
| <input type="checkbox"/> | HOG Harley-Davidson | <input type="checkbox"/> | FDX FedEx | <input type="checkbox"/> | LNKD LinkedIn |
| <input type="checkbox"/> | HAS Hasbro | <input type="checkbox"/> | HLT Hilton | <input type="checkbox"/> | MSFT Microsoft |
| <input type="checkbox"/> | HSY Hershey | <input type="checkbox"/> | HD Home Depot | <input type="checkbox"/> | ORCL Oracle |
| <input type="checkbox"/> | SJM JM Smucker | <input type="checkbox"/> | KSS Kohls | <input type="checkbox"/> | QCOM Qualcomm |
| <input type="checkbox"/> | K Kellogg | <input type="checkbox"/> | KOG Kroger | <input type="checkbox"/> | SNDK SanDisk |
| <input type="checkbox"/> | KHC Kraft Heinz | <input type="checkbox"/> | LOW Lowe's | <input type="checkbox"/> | S Sprint |
| <input type="checkbox"/> | MAT Mattel | <input type="checkbox"/> | MAR Marriott | <input type="checkbox"/> | TRIP TripAdvisor |
| <input type="checkbox"/> | NKE Nike | <input type="checkbox"/> | MCD McDonald's | <input type="checkbox"/> | TWTR Twitter |
| <input type="checkbox"/> | PEP PepsiCo | <input type="checkbox"/> | NFLX Netflix | <input type="checkbox"/> | VZ Verizon |
| <input type="checkbox"/> | PG Procter & Gamble | <input type="checkbox"/> | JWN Nordstrom | <input type="checkbox"/> | YHOO Yahoo |
| <input type="checkbox"/> | RL Ralph Lauren | <input type="checkbox"/> | PCLN Priceline | FINANCIAL | |
| <input type="checkbox"/> | TSLA Tesla Motors | <input type="checkbox"/> | ROST Ross Stores | | |
| <input type="checkbox"/> | UA Under Armour | <input type="checkbox"/> | LUV Southwest Airlines | <input type="checkbox"/> | AFL AFLAC |
| <input type="checkbox"/> | WHR Whirlpool | <input type="checkbox"/> | SPLS Staples | <input type="checkbox"/> | ALLY Ally Financial |
| | | <input type="checkbox"/> | SBUX Starbucks | <input type="checkbox"/> | AXP American Express |
| | | <input type="checkbox"/> | TGT Target | <input type="checkbox"/> | BAC Bank of America |
| | | <input type="checkbox"/> | GPS The Gap | <input type="checkbox"/> | COF Capital One |
| | | <input type="checkbox"/> | TWX Time Warner | <input type="checkbox"/> | C Citigroup |
| | | <input type="checkbox"/> | UAL United Continental | <input type="checkbox"/> | GS Goldman Sacks |
| | | <input type="checkbox"/> | WMT Walmart | <input type="checkbox"/> | JPM JP Morgan Chase |
| | | <input type="checkbox"/> | DIS Walt Disney | <input type="checkbox"/> | MA MasterCard |
| | | <input type="checkbox"/> | WFM Whole Foods Market | <input type="checkbox"/> | MET MetLife |
| | | <input type="checkbox"/> | YUM YUM! Brands | <input type="checkbox"/> | MS Morgan Stanley |
| | | | | <input type="checkbox"/> | PYPL PayPal |
| | | | | <input type="checkbox"/> | TRV The Travelers |
| | | | | <input type="checkbox"/> | V Visa |
| | | | | <input type="checkbox"/> | WFC Wells Fargo |

Stock Information Summary

Student are to complete one of these pages for each stock their team purchases.

TEAM NAME: _____

STOCK NAME: _____ STOCK SYMBOL: _____

Go to: <http://money.cnn.com/> In the top right is a box (stock tickers) where you can enter the Stock Symbol for your company.

Down below the chart and the news you will find data about your company.

What price did your company close at yesterday (Previous close)?

What was the Annual revenue last year (how much did they sell)?

What was the Annual profit last year?

Now click on the Charts tab above the chart. Change it to 3 Year. You can press the chart to find any particular date.

Stock Price One-Year Ago (10/13/14):

Stock Price Two-Years Ago (10/13/13):

Stock Price Three-Years Ago (10/13/12):

Then click on Profile.

Market Cap is how much the entire company is currently worth.

What is your company's Market Cap?

How many employees does your company have?

In your own words, summarize the paragraph about your company (what does your company do/sell)?

ACCELERATED MATHEMATICS: CHAPTER 13

FINANCIAL LITERACY

TOPICS COVERED:

- Simple and Compound Interest
- Sales Tax and Income Tax
- Components of a Personal Budget/Fixed & Variable Expenses
- Construct a Net Worth Statement
- Family Budget Estimator
- Incentives, Sales, Rebates, and Coupons
- Interest Rates and Loan Length (8th)
- Savings Growth Over Time (8th)
- Cost of 2 Year and 4 Year Colleges (8th)



Principal (p or P)– The principal is the amount of money upon which interest is paid. It is the amount of money at the beginning.

Annual Rate of Interest (r) – The percentage an investor will earn on an investment each year.

Interest (I) – For the saver, interest is the price a financial institution pays for using a saver’s money and is normally expressed as a percentage of the amount saved.

Time (t) – The amount of time, in years, that the original money will accumulate interest.

Simple Interest – The amount of interest earned on the principal only.

Compound Interest – The interest that is earned on the principal *and* the interest already earned.

*Compound interest is always better for people that save and invest their money.
Savings that earns compound interest will earn more money over a period of time
than with simple interest.*

Just about all interest you will encounter in real-life is compound interest.

| | |
|---|--|
| <p>Simple Interest $I = prt$</p> | <p>Compound Interest $A = P(1 + r)^t$</p> |
|---|--|

NOTE: The simple interest formula computes the amount of interest at the end of a period of time.

NOTE: The compound interest formula computes the TOTAL amount you would have (principal + interest) at the end of a period of time

| | | | |
|------------------------|-----------|--------------------------|------------------|
| Simple Interest | $I = prt$ | Compound Interest | $A = P(1 + r)^t$ |
|------------------------|-----------|--------------------------|------------------|

1. Jessica opened a savings account with a one-time deposit of \$100 that will be left in the account for 5 years. The savings account will pay 5% simple interest each year. Calculate the amount of interest she will earn in 5 years.

$$I = prt$$

$$I = (100)(0.05)(5)$$

$$I = \$25 \leftarrow$$

This is the total interest. Add it to the original \$100 for a total of \$125.

You can also see the simple interest each year in the table below.

| Year | Amount to earn interest | Interest Rate | Interest Earned | Ending Balance |
|--------------|-------------------------|---------------|-----------------|----------------|
| 1 | \$100 | 5% | \$5 | \$105 |
| 2 | \$100 | 5% | \$5 | \$110 |
| 3 | \$100 | 5% | \$5 | \$115 |
| 4 | \$100 | 5% | \$5 | \$120 |
| 5 | \$100 | 5% | \$5 | \$125 |
| Total | | | \$25 | |

2. Charles opened a savings account with a one-time deposit of \$100 that will be left in the account for 5 years. The savings account will pay 5% compound interest each year. Calculate the amount of interest she will earn in 5 years.

$$A = P(1 + r)^t$$

$$A = 100(1 + 0.05)^t$$

$$A = 100(1.05)^5$$

$$A = 100(1.2761)$$

$$A = \$127.61 \leftarrow$$

This is the total amount. For just interest, you would subtract the original \$100 (\$27.61).

You can also see the compound interest each year in the table below.

| Year | Amount to earn interest | Interest Rate | Interest Earned | Ending Balance |
|--------------|-------------------------|---------------|-----------------|----------------|
| 1 | \$100 | 5% | \$5 | \$105 |
| 2 | \$105 | 5% | \$5.25 | \$110.25 |
| 3 | \$110.25 | 5% | \$5.51 | \$115.76 |
| 4 | \$115.76 | 5% | \$5.78 | \$121.54 |
| 5 | \$121.54 | 5% | \$6.07 | \$127.61 |
| Total | | | \$27.61 | |

1. Griffin opened two savings accounts with a one-time deposit of \$300 in each account. The first savings account will pay 5% simple interest each year. The second will pay 5% compound interest each year. Use the charts below to calculate the amount of interest he will earn in a 5 year period.

1. SIMPLE INTEREST

| Year | Amount to earn interest | Interest Rate | Interest Earned | Ending Balance |
|-------|-------------------------|---------------|-----------------|----------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| Total | | | | |

2. Complete the formula below to show the amount of interest earned each year in #1.

$$I = prt$$

3. COMPOUND INTEREST

| Year | Amount to earn interest | Interest Rate | Interest Earned | Ending Balance |
|-------|-------------------------|---------------|-----------------|----------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| Total | | | | |

4. Complete the formula below to show the total balance at the end of five years of compound interest.

$$A = P(1 + r)^t$$

5. In words, write a comparison of simple interest and compound interest.

1. Ella opened two savings accounts with a one-time deposit of \$1200 in each account. The first savings account will pay 5% simple interest each year. The second will pay 5% compound interest each year. Use the charts below to calculate the amount of interest she will earn in a 5 year period.

1. SIMPLE INTEREST

| Year | Amount to earn interest | Interest Rate | Interest Earned | Ending Balance |
|-------|-------------------------|---------------|-----------------|----------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| Total | | | | |

2. Complete the formula below to show the amount of interest earned each year in #1.

$$I = prt$$

3. COMPOUND INTEREST

| Year | Amount to earn interest | Interest Rate | Interest Earned | Ending Balance |
|-------|-------------------------|---------------|-----------------|----------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| Total | | | | |

4. Complete the formula below to show the total balance at the end of five years of compound interest.

$$A = P(1 + r)^t$$

5. In words, write a comparison of simple interest and compound interest.

If you have savings that earns simple interest the interest earnings are calculated once a year. Remember that the formula for simple interest is $I = P \cdot r \cdot t$.

| | |
|----|--|
| 1. | Calculate the simple interest on savings of \$18,470. Use an annual interest rate of 2.7%. |
| 2. | Calculate the simple interest on savings of \$9,028 invested for six months at a rate of 3.4%. |

Analyze the table below which shows the total value over time of \$1000 invested in accounts earning 4% interest.

| Number of Years Invested | Total Value in Simple Interest | Total Value in Compound Interest |
|--------------------------|--------------------------------|----------------------------------|
| 1 | 1040 | 1040.00 |
| 2 | 1080 | 1081.60 |
| 3 | 1120 | 1124.86 |
| 4 | 1160 | 1169.90 |
| 5 | 1200 | 1216.70 |
| 10 | 1400 | 1480.20 |
| 20 | 1800 | 2191.10 |
| 30 | 2200 | 3243.40 |

Example: You have \$10,000 to invest for 2 year and you want to calculate and compare simple interest and compound interest of 4%. Interest is compounded annually.

Simple Interest: $10,000 \cdot 0.04 \cdot 2 = 800$

$$10,000 \cdot 0.04 \cdot 1 = 400$$

Compound Interest: $10,400 \cdot 0.04 \cdot 1 = 416$

$$400 + 416 = 816$$

With compounding you would earn \$16 more that with simple interest.

| | |
|----|--|
| 3. | Use simple interest and compound interest of 3% to compare the earnings on savings of \$20,000 invested for two years. |
| 4. | Calculate simple interest on \$7,000 at 3.2% for a year. |
| 5. | Calculate compound interest on \$5,400 for 2 years at 4%, compounded annually. |
| 6. | Calculate and compare simple interest and compound interest of 5% on the amount of \$12,000 for 5 years. |
| 7. | Calculate and compare simple and compound interest of 4.2% on savings of \$15,000 for 10 years. |

An **installment loan** is one in which the borrower makes fixed payments, such as a monthly payment. With **revolving credit**, the amount paid each month can vary based on additional charges, as with a credit card.

Personal loans and mortgages are examples of installment credit, while credit card balances are an example of revolving credit. The cost of using credit cards depends on the amount borrowed, the interest rate, and the length of the loan.

The **principal** (P) is the total money borrowed.

Interest rates (r) are fixed or variable. A fixed rate stays the same for the term of the loan. A variable rate changes as other interest rates in the economy change. It can go up or down. Variable rates are often used for home mortgages.

The **term** (t) is the length of time for which you borrow the money. Most personal loans have a term of 1 to 5 years. Mortgage loans, for buying a house, are commonly made for 15, 20, or 30 years.

| | | |
|----|--|--|
| 1. | Calculate the simple interest on \$1200 at 3.9% for a year. | |
| 2. | What is the principal if you have one year of simple interest on \$75 and a rate of 5%? | |
| 3. | What is the simple interest on \$2400 at 5.5% for 8 months? | |
| 4. | You want to buy a large-screen TV for \$1500 on credit. The interest rate is 14% and you will need to pay off the loan in 6 months. How much interest will you pay for 6 months if you are paying simple interest? | |
| 5. | In the problem above what will be your monthly payment to repay the loan plus interest? | |
| 6. | In the problem above if you changed the terms of the loan to 18 months, what is the effect on the interest cost and on your monthly payments? | |

A compounded interest is one paid on the principal, loan fees, and interest. Compounded is good when you are savings because it leads to more interest that you earn. Compounded is not good when you are borrowing as you end up paying more interest.

Complete the table to figure out the cost of this loan.

| Time | Balance | Interest @ 6% | New Balance |
|-------------|----------------|----------------------|--------------------|
| March | 1500.00 | 22.50 | 1522.50 |
| June | 1522.50 | | |
| September | | | |
| December | | | |

Compare the cost of a loan with simple interest to the cost of a loan with compound interest.

Credit cards charge compound interest if you do not pay the full balance each month. Each month's bill includes the balance remaining from the previous bill, interest, and new purchases. You are required to pay only a minimum amount (usually 2% plus any interest and fees) each month. However, paying the minimum each month is not a wise credit decision, because the interest costs will add up quickly, adding to the cost of your original purchase.

For credit cards as well as loans such as home and car loans the interest rates are expressed as annual percentage rates (APR). The APR includes both the interest and any fees and costs added to the amount of principal. Lenders are required to calculate a loans APR and provide borrowers with that information.

You can pay for purchases with cash or different forms of credit. The advantage of cash is lower cost because you pay no interest. The disadvantage is that you may need a repair, for example, and not have the cash to pay for it. Credit allows you to buy items and pay for them over time. Disadvantages are the interest cost if balances are not paid off each month and buying more than you can afford.

1. Identify when you would use cash or credit for purchases.

You have a savings account with \$400 in it. The account earns 3.5% per year. The bank compounds or adds interest 4 times a year.

Step 1: Calculate the simple interest on \$400. $I = 400 \cdot 0.035 \cdot 1 = 14$

Step 2: For the first quarter, divide \$14 by 4. $14 \div 4 = 3.50$

Step 3: Add principal and interest $400 + 3.50 = 403.50$

Step 4: Calculate interest on the new principal and repeat

When calculating compound interest over several years, it is easier to use an online interest calculator.

A **monetary incentive** is a special offer that reduces the total cost of one or more items, such as “buy one, get one free.” A **coupon** is a document offering a reduction in price on a specific item, such as a box of cereal. A **rebate** is a sales promotion used as an incentive to get buyers to purchase a specific product.

Evaluate the pairs of coupons for the eight purchases below and, for each pair, choose the coupon that provides that greater cost savings.

| | | |
|----|--|--|
| 1. | Book Bag \$29.99 (buy one) | Coupon 1: 20% off |
| | | Coupon 2: Save \$5.00 |
| 2. | Snappy Krunch Cereal \$2.99 per box (buy three boxes) | Coupon 1: Buy 2, Get 1 Free! |
| | | Coupon 2: Save \$1.50 per box |
| 3. | Super Nutty Peanut Butter 32 oz. jar for \$2.56 OR 48 oz. jar for \$2.99 (buy two jars of one size) | Coupon 1: Buy a 32 oz. jar at regular price, get another free! |
| | | Coupon 2: Save \$0.50 on each 48 oz. jar |
| 4. | Soccer Shoes \$69.95 a pair (buy two pairs) | Coupon 1: Buy one pair, get another at half price! |
| | | Coupon 2: Two pairs for \$100.00 |
| 5. | Amusement Park All day admission ticket \$45.00 (buy 6 tickets) | Coupon 1: \$5 off each ticket (limit 6) when you buy a case of root beer at \$9.99 a case |
| | | Coupon 2: Buy 5 tickets at regular price, get the 6 th one free |
| 6. | Scary Movie Festival \$8.00 each night for 6 nights (attend all 6 nights) | Coupon 1: 4 nights at regular price: half price the next 2 nights |
| | | Coupon 2: 5 nights at regular price – 6 th night free |
| 7. | Pizza \$18.99 (buy 2 pizzas) | Coupon 1: Save \$2.00 on each pizza. Limit 2 |
| | | Coupon 2: Today only – 2 pizzas \$35.00 |
| 8. | Video Game \$49.99 (buy 3 games) | Coupon 1: Rebate \$14.00 each. Limit two. |
| | | Coupon 2: Save 20% no limit |

As you get older you will start earning money and paying taxes. Among the three major taxes that many people pay are income taxes, sales taxes, and property taxes.

An **income tax** is a percent of earnings paid to federal, state, or local governments.

A **sales tax** is a percent of the cost of a purchase.

A **property tax** is the percent of the value of the property owned.

Suppose a family earns total wages of \$800 a week and pays state income taxes of 5% on annual earnings. How much will the family pay as state income tax? Suppose the local government taxes income at 1%. How much additional money will the family pay in taxes to the local government? What amount of money is left after taxes are paid?

Below is the 2014 Federal income tax table.

| 2014 Federal Tax Rates | Single | Married Filing Jointly & Surviving Spouses | Married Filing Separate Returns | Heads of Households |
|---------------------------|-----------------------|--|---------------------------------|-----------------------|
| Personal Exemption | \$3,950 | | | |
| Std Deduction | \$6,200 | \$12,400 | \$6,200 | \$9,100 |
| 10% | \$0 – \$9,075 | \$0 - \$18,150 | \$0 – \$9,075 | \$0 - \$12,950 |
| 15% | \$9,076 – \$36,900 | \$18,151 - \$73,800 | \$9,076 – \$36,900 | \$12,951 - \$49,400 |
| 25% | \$36,901 - \$89,350 | \$73,801 - \$148,850 | \$36,901 - \$74,425 | \$49,401 - \$127,550 |
| 28% | \$89,351 – \$186,350 | \$148,851 - \$226,850 | \$74,426 – \$113,425 | \$127,551 - \$206,600 |
| 33% | \$186,351 - \$405,100 | \$226,851 - \$405,100 | \$113,426 - \$202,500 | \$206,601 - \$405,100 |
| 35% | \$405,101 - \$406,750 | \$405,101 - \$457,600 | \$202,501 - \$228,800 | \$405,101 - \$432,200 |
| 39.6% | over \$406,750 | over \$457,600 | over \$228,800 | over \$432,200 |
| © www.savingtoinvest.com | | | | Source : IRS.gov |

In addition to this table people pay Social Security tax, which is 6.2% of earnings up to \$113,700. In addition to this table people pay Medicare tax, which is 1.45% on all income.

If you earned \$54,000 a year, what tax bracket would you be in?

If you earned \$10 an hour, how much would you make for a 40-hour week? A year? What federal income taxes would be withheld?

If you earn \$49,400 a year, what amounts of federal taxes would be withheld?

The money that is left after taxes are withheld is called **take-home pay**. Calculate the income taxes, Social Security taxes, and Medicare taxes you would pay on earnings of \$54,000. What is the take-home pay?

Many people create a budget to manage current income and expenses, while also planning ahead for long-term financial goals. A **budget** is an estimate of expected income and expenses. A **fixed expense** is one that does not change over a period time. A **variable expense**, varies – or changes – over time.

| Monthly Budget | | | |
|--|------|-----|-----------------------|
| Income (annual take home pay of \$64,646) | | | |
| Salary/wages (take-home pay) | 5388 | | |
| Other (bank account interest) | 60 | | |
| Total monthly income | 5448 | | |
| Expenses | | | Fixed/Variable |
| Housing (mortgage/rent) | 1080 | 24% | F |
| Property tax | 385 | | F |
| Insurance (home, car, life) | 200 | | F |
| Food | 970 | | V |
| Utilities (water, gas, electricity) | 230 | | V |
| Cell phones | 128 | | F |
| Cable/internet | 145 | | F |
| Gasoline | 210 | | V |
| Child care | 400 | | F |
| Pet expenses | 0 | | V |
| Credit card charges | 410 | | V |
| Entertainment costs | 300 | | V |
| Gifts/charities | 100 | | V |
| Other | 0 | | V |
| Total expenses | 4558 | | |
| Savings | | | |
| Emergency fund | 100 | | |
| Retirement savings | 340 | | |
| College savings | 450 | | |
| Total savings | 890 | | |

| | | |
|----|--|--|
| 1. | What is the amount of total monthly income? | |
| 2. | What is the amount of total expenses? | |
| 3. | For each expense calculate its percentage of total expenses. Round to the nearest whole percent. | |
| 4. | Which expenses take up the largest share of the budget? | |
| 5. | What percentage of total take-home pay is saved by this family? | |
| 6. | Calculate the percentage of fixed expenses and variable expenses in the budget. | |

Online family budget estimator for cities in Texas: <http://www.familybudgets.org/>

Net worth is the difference between what is owned and what is owed.

Assets are items owned. They include a house, a car, savings, and investments.

Liabilities are amounts owed. They include a mortgage, credit card debt, and any other loans.

| Net Worth of Katniss Everdeen | |
|--------------------------------------|------------------|
| Assets | |
| House | 238,000 |
| General savings | 48,000 |
| College fund | 28,000 |
| Retirement fund | 72,000 |
| Total assets | \$386,000 |
| Liabilities | |
| Mortgage owed | 110,000 |
| Credit card debt | 1,800 |
| Balance on student loans | 23,000 |
| Equity loan for home improvement | 25,000 |
| Total liabilities | \$159,800 |
| NET WORTH | \$226,200 |

| | |
|----|--|
| 1. | Calculate the net worth of someone with assets of \$198,000 and liabilities of \$154,000. |
| 2. | What is the value of assets if someone has a net worth of \$142,500 and liabilities of \$87,400? |
| 3. | What is the value of liabilities if total assets are \$204,800 and net worth is \$128,900? |

Determine whether each item is an asset or a liability.

| | | | |
|-------------------|------------------|-----------|----------------|
| Money in checking | Credit cards | Savings | Student loans |
| Investments | Retirement money | Car loans | Mortgage |
| Home equity loan | Vehicles | Your home | Personal loans |

Mr. Mangham’s accounts are shown below:

| | |
|--------------------------|--------------------------|
| Checking account: \$2876 | Student loan: \$9560 |
| Credit card: \$980 | 401(k) account: \$14,432 |
| Car loan: \$18,680 | Savings account: \$5500 |

Place Mr. Mangham’s account into the table below and determine Mr. Mangham’s net worth.

| Assets | | Liabilities | |
|---------------|---------------|--------------------|---------------|
| Type | Amount | Type | Amount |
| | | | |
| | | | |
| | | | |
| TOTAL | | TOTAL | |
| Net Worth | | | |

| CREDIT CARD STATEMENT | | | | SEND PAYMENT TO Box 1244 Anytown, USA | |
|---------------------------------------|--------------------------------------|----------------------------------|---------------------------------------|---|--|
| ACCOUNT NUMBER 4125-239-412 | NAME John Doe | STATEMENT DATE 2/13/09 | PAYMENT DUE DATE 3/09/09 | | |
| CREDIT LINE \$1200.00 | CREDIT AVAILABLE \$1074.76 | NEW BALANCE \$125.24 | MINIMUM PAYMENT DUE \$20.00 | | |
| REFERENCE | SOLD | POSTED | ACTIVITY SINCE LAST STATEMENT | AMOUNT | |
| 483GE7382 | | 1/25 | PAYMENT THANK YOU | -168.80 | |
| 32F349ER3 | 1/12 | 1/15 | RECORD RECYCLER ANYTOWN, USA | 14.83 | |
| 89102DIS2 | 1/13 | 1/15 | BEEFORAMA REST ANYTOWN, USA | 30.55 | |
| NX34FJD32 | 1/18 | 1/18 | GREAT ESCAPES BIG CITY, USA | 27.50 | |
| 84RT3293A | 1/20 | 1/21 | DINO-GEL GASOLINE ANYTOWN, USA | 12.26 | |
| 973DWS321 | 2/09 | 2/09 | SHIRTS 'N SUCH TINYVILLE, USA | 40.10 | |
| Previous Balance | (+) | 168.80 | Current Amount Due | 125.24 | |
| Purchases | (+) | 125.24 | Amount Past Due | | |
| Cash Advances | (+) | | Amount Over Credit Line | | |
| Payments | (-) | 168.80 | Minimum Payment Due | 20.00 | |
| Credits | (-) | | | | |
| FINANCE CHARGES | (+) | | | | |
| Late Charges | (+) | | | | |
| NEW BALANCE | (=) | 125.24 | | | |
| FINANCE CHARGE SUMMARY | | PURCHASES | ADVANCES | For Customer Service Call: 1-800-xxx-xxxx | |
| Periodic Rate | | 1.65% | 0.54% | For Lost or Stolen Card, Call: 1-800-xxx-xxxx | |
| Annual Percentage Rate | | 19.80% | 6.48% | 24-Hour Telephone Numbers | |

| | | |
|-----|--|--|
| 1. | What is the minimum payment for this statement? | |
| 2. | How does this credit card statement show financial responsibility by the credit card holder? | |
| 3. | What is the Annual Percentage Rate (APR) for purchases? | |
| 4. | What is the new balance? | |
| 5. | What is the previous balance? | |
| 6. | How many charges were made during the billing cycle? | |
| 7. | How many payments were made during this billing cycle? | |
| 8. | What is the total amount of the credit line? | |
| 9. | What is the total amount of available credit? | |
| 10. | What is the Annual Percentage Rate (APR) for cash advances? | |
| 11. | What is the date for the next payment? | |

Saving for college or retirement are long-term goals for many people. To help determine a savings plan, it is important to know approximately what your college costs will be or the amount of money you will need for retirement. Both require regular savings and wise money management.

Choose four schools you think you might like to attend.

- One two-year school, such as a community college
- One four-year public, state-supported university in Texas
- One four-year public, state-supported university outside Texas
- One private college or university

Research the estimated costs for tuition, room and board, and other expenses at each of the three schools. Then make a plan for at least your first year.

When researching online you may want to include College Board as part of your search as they have information you may find useful in estimating costs.

| COSTS | Tuition | Room/board | Other/fees | Totals |
|--------------------------------|----------------|-------------------|-------------------|---------------|
| Two-year college | | | | |
| Texas public university | | | | |
| Out-of-state public university | | | | |
| Private college | | | | |