The Eighth Wonder of the World

Compound interest is when you earn interest on the money you saved or spent and the previous interest you earned. Albert Einstein called compound interest the eighth wonder of the world. He said that it was one of the greatest "miracles" known to man. Compound interest can either work against you (credit card debt) or in your favor (investments). This can be a little confusing so let's do some illustrations.

Many people owe credit card debt. The average college student owes more than $3000 in credit card debt. The average credit card interest rate is now more than 20%, and as interest rates rise credit card rates go up with them. For people with poor credit, rates can even be as high as 36%! Let's do an illustration using average numbers.

Pretend that John didn't learn about finances in high school. As a result, when he got to college he bought cool stuff and went out to eat using a credit card. He could have done without the stuff and eaten in the cafeteria, but he didn't think it was a big deal. All his friends were doing it.

He learns about personal finance and decides that he needs to get himself out of credit card debt. His minimum payment percentage required is 3% which is pretty common. If he adds no more debt to his card and pays the minimum amount required every month, it will take him fifteen years and two months to pay the card off. The total amount he will have paid is $6361.05. He will have paid $3,361.05 in just interest! That is like someone lending you $100, but in return you have to give them $212. It's easy to not see the true cost of what you are really paying when you use a credit card and don't pay it off every month.

However, compound interest can also work in your favor, especially if you are young. If you get your first job at fifteen years old and commit to the habit of investing from the start you could possibly end up with quite a large amount of money. Let's say you put in $100 a month and you get the average rate of return which is ten percent. In fifty years you will have invested $60,000, but due to the power of compounding it will be worth $1,396,690. That means your money earned $1,336,690 above what you put in. That is very doable. You very easily could invest even more because of raises and company matches.

Your turn: Grab the worksheet on the next page. Go to Bankrate's Minimum Payment Calculator (https://www.bankrate.com/finance/credit-cards/minimum-payment-calculator/). Think about an item that you really want to buy. Calculate how much it will really cost you and how long it will take you to pay it off if you only pay the minimum payment.

Now go to the Compound Interest Calculator at Investor.gov (https://www.investor.gov/financial-tools-calculators/calculators/compound-interest-calculator). Think about how much you could invest per month starting with your first job. Calculate how much that would grow over time.

Compound Interest Worksheet

Go to the minimum payment calculator at Bankrate (https://www.bankrate.com/finance/credit-cards/minimum-payment-calculator/). Think about an item that you really want to buy, but it costs a lot of money. Let's calculate how much it would really cost if you put it on a credit card instead of saving up to buy it. Use **3%** as the minimum payment percent.

What is the item? _____
How much does it cost? _____
How long will it take to pay it off if you only pay the minimum? _____
How much will you pay in interest? _____
Total Cost?_____

Now go to the compound interest calculator at Investor.gov (https://www.investor.gov/financial-tools-calculators/calculators/compound-interest-calculator). Think about how much you could invest per month starting with your first job. Use 10% (the average stock market return) for the interest rate compounded annually.

How much could you invest every month? _____
How much would you have in forty years? _____
How much did you contribute in that time? (Click show table.) _____
How much would you have in fifty years? _____
How much did you contribute in that time? (Click show table.) _____

Isn't it amazing how powerful compounding interest can be? Which position would you rather be in - the credit card user or the investor? _____