

FREE ENTERPRISE ACTIVITY 16

COMPOUNDING YOUR MONEY

When you deposit money into a savings account, the bank pays you interest for the privilege of using your money to make loans. If the bank paid 0.50% **simple interest** on your \$1,000 deposit, your account would earn \$5 a year ($\$1,000 \times .005 = \5). However, **compounding** makes your money grow faster, because you earn interest on interest. In our example, if the interest is compounded annually, your account would be worth \$1,005 at the end of the first year. Then, in the second year, your account would earn \$5.03 in interest ($\$1005 \times .005 = \5.03). At the end of the second year, your account would be worth \$1010.03 ($\$1,005 + \5.03).

Interest percentages are stated as annual rates. To calculate interest that is compounded more often than once a year, divide the annual rate by the number of times during the year the interest will compound. For example, if the 0.50% rate will be compounded semiannually, your money will earn 0.25% each half-year.

Directions: Suppose that you deposit \$2,000 at 1.5% interest compounded quarterly. Answer question 1. Then complete the table below to find out how much your deposit will be worth at the end of the year. Round each calculation to the nearest cent.

1. What interest percentage will you earn each quarter? _____

Quarter	Beginning Balance	Interest Earned	Ending Balance
1	\$2,000.00	\$7.50	\$2,007.50
2	\$2,007.50		
3			
4			

2. How much total interest did your \$2,000 earn for the year?

3. How much interest would your \$2,000 have earned at 1.5% simple interest?

4. How much more interest did you earn with compounding than without?

5. Do you think compounding will make much of a difference to you over your lifetime of saving? Explain.

FREE ENTERPRISE ACTIVITY 17

CERTIFICATES OF DEPOSIT OR MUTUAL FUNDS?

Banks offer certificates of deposit (CDs) to their customers as a way of earning greater interest on their investments than in regular savings accounts, but with the same security of being federally insured. This means that when you invest in a 1-year CD the bank promises to return to you your full principal plus the interest you have earned.

The stock market is another way to invest your savings. The easiest way to invest in stocks is by joining a mutual fund, where professional stock analysts pick the stocks that will be shared by their investors. Earnings in stocks (and good mutual funds), over a long period of time, have historically been better than bank accounts, but they are riskier. That means that on any one day, an investment may have a greater yield than a similar investment in stocks, but on most days, the stock investment will provide the greater yield.

Directions: Compute the value of each account in the tables below. Then answer the questions. To find the value of an account this year, take the value from last year and multiply by this year's interest rate. This is the interest for the year. Then add this onto last year's account value. Round your answers to the nearest dollar.

- Find the value of a minimum \$10,000 investment in two 5-year CDs. For example, to find the account value in year 2, find $\$10,000 \times 0.0525 + \$10,000$.

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Rate		5.25%	5.25%	5.25%	5.25%	5.25%	4.5%	4.5%	4.5%	4.5%	4.5%
Acc't value	\$10,000										

- Find the value of a \$10,000 investment in a typical stock mutual fund for 10 years.

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Rate		9%	-2%	3%	16%	18%	20%	19%	29%	14%	39%
Acc't value	\$10,000										

- In which years was the money invested in a CD worth more?

- In which years was the money invested in a mutual fund worth more?

- If you want to use your savings in 2 years to buy a car, why would a CD be a better place for you to put your savings?

- If you want to save your money for the next 40 years until you retire, why would the stock market be a better place to put your savings?
