

## Earning Interest

**Simple**  
**Compound**



We've talked in detail about the type of interest you pay to the bank when you borrow money. What about the type of interest that the bank pays you just for keeping your money safe with them? Sounds pretty good, doesn't it? Well before you go shopping for the best interest rate on your money, you'll need to understand the difference between simple and compound interest.

Let's look at both of these. The differences between them can have huge implications for your money over time.

## Simple interest

Interest calculated only on the principle

$$\text{Simple Interest} = P \times I \times N$$

Principal Interest Number of Periods

5% Interest Per Year

1 Year	\$1,000	+	\$50	=	\$1,050
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10 Years	\$1,000	+	\$500	=	\$1,500
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Simple interest is calculated only on the principle of a deposit or loan. You calculate it by taking the initial amount you deposited (the principal) and multiplying it by the interest rate and the number of periods.

Say the bank offered five percent interest paid annually. You deposit one thousand dollars for one year. How much will you make? Multiply one thousand by five percent times one year which equals fifty dollars. To figure how much you'd make if you deposited it for ten years, multiply one thousand by five percent times ten years, and you end up with five hundred dollars.

## Compound Interest

your original deposit, and  
interest you have earned.



Interest Compounded Annually

1000 + \$50 =	\$1,050
1000 + \$102.50 =	\$1,102.50
1000 + \$551.33 =	\$1,551.33

The big difference with compound interest is that the bank pays interest on your original deposit, and any interest you have earned. This can have a huge impact on how much interest you earn over time.

Let's say the bank offered five percent interest compounded annually. If you deposit one thousand dollars, the bank will pay you fifty dollars for the year just like it would with simple interest. If you deposit it for two years though, the bank pays you fifty-two dollars and fifty cents the second year because it pays interest on your original one thousand dollars plus the fifty dollars you earned in interest. An extra two dollars and fifty cents doesn't sound like much, but it adds up over time. In ten years, it's an extra fifty-one dollars and thirty three cents, or more than ten percent extra!

So, would you rather your bank pay use the simple or compound method of interest on your account?

## Rule of 72

$$\frac{72}{\text{Interest Rate}} = \text{Years to double money}$$

$$\frac{72}{3\%} = 24 \text{ Years}$$

A simple way to see how long it will take for your money to double is to use the rule of seventy-two. For example, if you are earning three percent interest, divide seventy-two by three, which equals twenty-four. So, it will take twenty four years for you double your money at three percent interest.

# Interest Calculators



Requires Java

Check out how fast your money really can grow at the U.S. Mint website. The Internet has lots of online calculators that help you calculate interest. Here are some examples you can try. You can also find some on your own.