Compound Interest

The **simple interest method** is usually just for loans and investments with terms less than a year. The **compound interest method** is normally used for terms that exceeds one year. It is also used in some cases where the duration is less than one year. In the compound interest method, interest is calculated and converted to principal. Suppose, for example, you invest $1000 at 10% compounded annually. “Compounded annually” means that “interest is compounded once per year.” Therefore, the compounding period is one year. On each anniversary of the investment, interest will be calculated and converted to principal. At the end of the first year, this $100 will be converted to principal. The new principal ($1100) will earn $110 interest (10% of $1100) in the second year. Note that you earn $10 more interest in the second year than in the first year because you have $100 more principal invested at 10%. How much interest will be earned in the third year? Do you see the pattern developing? Each year you will earn more interest than in the preceding year—$100 in the first year, $110 in the second year, $121 in the third year, and so on. The growth in value of the investment will accelerate as the years pass.

In many circumstances, interest is compounded more frequently than once per year. The number of compoundings per year is called the compounding frequency.

**Compounding Frequencies and Periods**

Annually means once a year with compounding period of 1 year

Semi annually means twice a year with a compounding period of 6 months

Quarterly means four compounding periods with a compounding period of 3 months

Monthly means 12 compounding periods each lasting one month.