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Library & Learning Services

# Compound interest

Study Development Quick Guide

**Method 1: step-by-step**

1. Calculate the interest accrued in the first year.
2. Add this to the total amount.
3. Calculate the interest accrued in the second year, based on this new amount.
4. Add this to the total amount.
5. Repeat for as many years as needed.

**Note:** "year" can be replaced by month, week, 6-months etc. as appropriate.

**Method 2: using a formula**

$$\text{Total amount after "n" units of time} = (\text{original amount}) \times (1 + \text{decimal interest})^n$$

The steps are as follows:

1. Turn the percentage interest into a decimal by dividing the percentage by 100.
2. Add 1 to the decimal.
3. Calculate this value to the power of "n" ("n" is the number of units of time that the interest is calculated for- for example, a loan over 4 years with yearly interest has n = 4).
4. Multiply this number by the original amount of money.

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