Compound interest

Here the interest is added to the principal at the end of each year. So the next year the interest is worked out on a larger amount of money than what was originally borrowed.

This means paying interest on the interest of previous years (unlike simple interest, where you only pay interest on the original amount).

This is how it is calculated:

£400 is borrowed for 3 years at 5% compound interest.

Principal at the start = **£400**

Interest in the 1st year = $\frac{5}{100} \times 400 = £20$

Principal after 1 year = **£420**

Interest in the 2nd year = $\frac{5}{100} \times 420 = £21$

Principal after 2 years = **£441**

Interest in the 3rd year = $\frac{5}{100} \times 441 = £22.05$

Principal after 3 years = **£463.05**

The total interest charged under compound interest will be **£63.05**.

This is different to the simple interest worked out above.

1. Megan invested £2000 for 3 years at 5% Compound Interest.
Calculate the **interest** Megan received.

2. Mr Jones buys a new car for £50 000.
The car decreases in value at the rate of 30% each year.
Find the value of the car after two years.