# Percentages

### Prior Knowledge:

To use scale factors to calculate percentages and percentage change

### Activities:

1. The attention span of a child increases by 30% every year. A 7-year-old can concentrate for 15 minutes. How long can an eight-year-old concentrate for?
2. A year ago a house cost £120,000 but then house prices dropped by 7%. How much does the house cost now?
3. A phone has been reduced from £50 to £37 in a sale. What percentage reduction does this represent?
4. The average attendance at a local football stadium increased from 700 last season to 742 this season. What percentage increase does this represent?

### Prior Knowledge:

To use scale factors to find what percentage one number is of another?

### Activities:

1. What is 34 as a percentage of 74?
2. What is 57 as a percentage of 100?
3. What is 17 as a percentage of 108?

Extensions:

1. Two banks offer two different deals. Bank A offers 33% interest over a three year period. Bank B offers 10% interest each year for three years. Which bank would you choose?
2. \*Find all the two digit numbers which are increased by 75% when their digits are reversed.

### Aims:

To know how to quickly calculate compound percentage change

### Activities:

Example

1. Jenny currently has £40000 in a bank account which pays 3% interest p.a. (per annum = per year).
   1. How much will she have in one year?
   2. How much will she have 2 years from now?
   3. How much will she have 8 years from now? Can you think of a quicker way to work this out?
2. The amount of Carbon Dioxide in the atmosphere is currently 411.75 ppm (parts per million) and is increasing at a rate of 1% per year.
   1. How much CO2 was there will there be in 5 years time.
   2. How much CO2 was there one year ago?
   3. How much CO2 was there 10 years ago?

Note, in the previous million years (before the industrial revolution), the CO2 rate fluctuated between 170 and 300 ppm.

Practice

Section A: Compound Percentages

Section B: Mixed problems.

SSDD: Same Surface, different deep.



