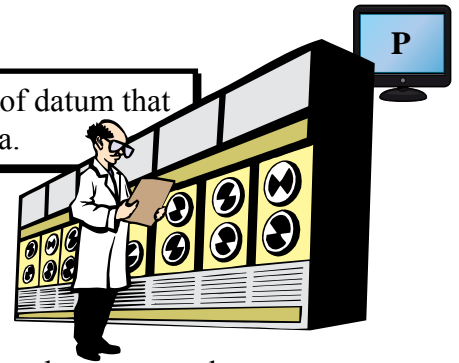# Averages 1

When we find an average we are looking for one piece of datum that is representative of the whole set of data.

There is more than one way to find an average.
We will look at two ways of finding an average.

The Mode

The **mo**de is the **mo**st frequently occurring piece of data. It can be a number or a word.
If all the data is different we say the set of data has <u>no mode</u>.

E.g.   Find the mode for the following sets of data.
a).   3, 4, 6, 2, 3, 6, 4, 4, 3, 1, 4, 5, 3, 6, 3, 5.
3 occurs more than any other number.   **The modal score = 3.**

b).   Red, Yellow, Green, Red, Blue, Red, Yellow, Red, Pink, Red.
Red occurs more than any other colour.   **The modal colour = Red.**

c).   5, 2, 4, 1, 2, 7, 4, 5, 2, 3, 5, 2, 5, 2, 5.
2 and 5 are equal top scores. This is bimodal, there are two modes.   **The modal score = 2 and 5.**

A.   Find the mode for the following sets of data.
1).   5, 6, 2, 6, 4, 3, 6, 4, 3, 2, 1, 9, 5, 4, 5, 3, 5, 6, 5.
2).   Green, Blue, Blue, Red, Pink, Blue, Green, Black, Blue, Blue, Red, Green.
3).   22, 25, 19, 23, 21, 25, 24, 20, 21, 23, 24, 25, 23, 21, 21.
4).   43, 41, 45, 46, 43, 41, 43, 45, 44, 48, 39, 43, 42, 41, 42, 44.
5).   72, 76, 81, 75, 73, 76, 71, 80, 71, 71, 76, 75, 74.
6).   Honda, Ford, Honda, BMW, Ford, Honda, Honda, Honda, Honda, BMW, Ford, Ford.
7).   132, 143, 132, 131, 135, 128, 119, 132, 130, 129, 132, 135, 136.
8).   16, 12, 10, 18, 21, 19, 9, 16, 14, 17, 15, 12, 12, 14, 16, 18, 9.
9).   Sparrow, Thrush, Thrush, Blackbird, Sparrow, Magpie, Thrush, Starling, Sparrow.
10).   36, 33, 31, 32, 35, 38, 30, 34, 35, 36, 32, 33, 34, 32, 32, 34, 35, 32, 36.
11).   Bee, Wasp, Fly, Wasp, Bee, Bee, Bee, Wasp, Fly, Midge, Fly, Wasp, Bee.
12).   210, 214, 213, 207, 212, 209, 207, 214, 216, 213, 209, 208, 214, 217.
13).   Tulip, Daisy, Daisy, Tulip, Daffodil, Tulip, Daisy, Daisy, Daisy, Bluebell, Daffodil.
14).   87, 91, 88, 86, 89, 90, 93, 87, 88, 89, 92, 95, 87, 88, 90, 86, 88, 92, 91, 89.
15).   143, 146, 140, 139, 147, 148, 142, 141, 146, 140, 138, 137, 142, 140, 144, 142, 146.

B.   1).   Here are the number of milk bottles delivered to houses in a street on a Friday.
2, 3, 1, 4, 0, 3, 2, 1, 5, 2, 1, 3, 2, 4, 1, 4, 2, 1, 2, 2, 1, 4, 3, 0, 2, 1, 0, 1, 1.
Find the modal number of milk bottles delivered on Friday.
2).   Here are the number of letters delivered to houses on the street that day.
4, 2, 4, 3, 5, 3, 2, 1, 2, 3, 0, 0, 3, 4, 2, 5, 3, 8, 3, 2, 3, 4, 2, 5, 3, 3, 2, 1, 1, 2.
Find the modal number of letters delivered that day.
3).   The number of paper clips in boxes was counted before they left the factory.
45, 46, 48, 46, 45, 44, 45, 46, 45, 44, 44, 46, 45, 45, 45, 46, 47, 43, 44, 45, 44.
Find the modal number of paper clips.
4).   The number of leaves on different clover plants was counted.
2, 3, 4, 3, 4, 2, 3, 4, 3, 3, 3, 2, 3, 5, 3, 2, 3, 3, 4, 3, 4, 4, 3, 3, 3, 3, 3, 3, 4, 2, 3.
Find the modal number of leaves for the plants.
5).   Shoe size was measured in a class.
5, 5.5, 6, 6.5, 5, 4, 5.5, 6.5, 6, 5, 7.5, 5, 4.5, 8, 5, 7, 6, 7.5, 6, 5, 5, 5.5, 7, 7.5.
Find the modal shoe size for the class.