

## Mean, Median, Mode and Range

Mean, median and mode are all different measures of average. The range of a set of data is simply the difference between the biggest value and smallest value. To find the mean, median or mode:

- Mean - add up all of your data values and divide the answer by the number of values you have.
- Median - line up your data from smallest to biggest. The median is the number in the middle.
- Mode - is the most frequently occurring value in your set of data.

### Worked example:

The table below shows the number of goals scored by a football team in ten different matches. Find the mean, median, mode and range of this data.

Number of goals scored	0	2	1	0	1	3	4	0	2	5
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**Range:**  $5 - 0 = 5$

**Mean:**  $(0+2+1+0+1+3+4+0+2+5) / 10 = 18/10 = 1.8$

**Median:** 0,0,0,1,1,2,2,3,4,5    The middle value is half-way between 1 and 2, so the median = 1.5

**Mode:** 0, because that is the number of goals scored most often.

Note the difference between the mean, median and mode. They give you three different measures of average. You will sometimes be asked to comment on which of the three you think is most representative of the data. With this example the mode clearly isn't very representative and given the spread of the data the mean is probably more representative than the median.

## Practice Questions

1. The table below shows the number of pupils in each year group at Rosebery Primary School.

Number of pupils per year group	33	30	29	31	26	30	35
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Work out the mean, median, mode and range for the numbers of pupils per year group.

2. Bob took 8 maths tests during the school year. His marks out of 50 were: 25, 37, 31, 29, 33, 45, 31 and 47. What was his:
- A. Mean mark?
  - B. Median mark?
  - C. Modal mark?
3. Which measure of average is the most representative of Bob's maths test marks? Give a reason for your answer.
4. The temperature in Leeds on 6 days in August in degrees Celsius was: 21, 22, 29, 22, 28, 31. Work out the mean, median, mode and range of these temperatures.