Analysing Data

Numeracy Guide - Greystanes High School

Mean (Average)

The term 'average' usually refers to the mean.

To calculate the mean, the sum of the data values is divided by the number of data values.

$$\text{mean} = \frac{\text{sum of data values}}{\text{number of data values}}$$

For example, if the data is represented in simple form e.g. **6, 7, 8, 4, 6, 8**

The average is found by adding the data values (results) together and then dividing by how many data values there are.

Add the results together	**6 + 7+ 8 + 4 + 6 + 8 = 39**
How many data values are there?	**6**
Now find the mean	**39 ÷ 6 = 6.5**

Mode

The data value that occurs the **most** often.

There may be more than one mode, or no mode at all.

For the data, **6, 7, 8, 4, 6, 8**, the mode is **6** and **8**.

Median

The median is the **middle** value when the data is arranged in order.

For the data, **6, 7, 8, 4, 6, 8**.

In order the data is **4, 6, 6, 7, 8, 8**.

The middle is between **6** and **7**, so the **median** is **$6\frac{1}{2}$.**

Range

The range is the **difference** between the greatest and the least values.

Range = highest value – lowest value

For the data **4, 6, 6, 7, 8, 8**. The range is **8 – 4 = 4.**

Teaching Strategies

- When you use '**average**' also refer to it as the **mean** of the data.
- Does the **mode**, **median** or **range** of the data you are investigating show something interesting or different to the mean?
- How does adding an additional data value **affect** the mean?

Further Teaching strategies: http://bit.ly/teachingdataanalysis