The **slope** or **gradient** of a straight line graph is the ratio of the vertical change with a corresponding horizontal change. Using the language of carpentry and the construction of stairs in a house, it is the ratio of the **rise** over the **run**. For instance, steps which have a rise of 15 cm with a run of 30 cm have a slope or gradient of 0.5. The larger the rise in relation to the run, the steeper the slope. Note that slope can also be negative.

The slope concept is used in all disciplines. In Economics it can be the proportion of income that goes in consumption. For instance for every extra $1000 earned, an extra $800 may be consumed, giving a slope or gradient of the relationship of 0.8. In Health Sciences, at a given level of drug administered, for every extra milligram of drug there may be an associated lessening of pain of 0.4 on some scale used. The slope or gradient of that relationship is -0.4.

For the example below: **what is the slope of the relationship between Centigrade and Fahrenheit?**

The equation for the relationship is $F = 32 + (9/5) \times C$

(You may recognise this from the equation given in guide Algebra 09 GraphPlotPoints.

Yes, the slope is the **number in front** of the “$C$” variable in the equation. This is because, for every 1 degree C the temperature increases, it increases by 9/5 degrees F. This is from the equivalent fraction: for every 100 degrees C the temperature increases, the temperature increases by 180 degrees Fahrenheit. This **number in front** is called the **coefficient of the horizontal variable in the equation**, and its value is that of the slope of a straight line graph.

You are recommended to view and consider this video: [http://patrickjmt.com/finding-the-slope-of-a-line/](http://patrickjmt.com/finding-the-slope-of-a-line/)