

Histograms

A histogram is a type bar chart using intervals on the x-axis, with the modification that the interval sizes are not fixed. The frequencies are defined by the areas of the bars, and the y – axis is not a frequency axis, but a frequency density axis. A histogram is better able to represent data because it can be used where the data is irregularly grouped. The heights of a group of fictitious children are summarised in the table below.

Height	Frequency
65 – 75	2
75 – 80	7
80 – 90	21
90 – 105	15
105 – 110	12

We construct a Frequency Density Column, using $\text{Frequency Density} = \frac{\text{Frequency}}{\text{Length of Interval}}$ obtaining the table

Height	Frequency	Frequency Density
65 – 75	2	$2/10 = 0.2$
75 – 80	7	$7/5 = 1.4$
80 – 90	21	$21/10 = 2.1$
90 – 105	15	$15/15 = 1.0$
105 – 110	12	$12/5 = 2.4$

We can now draw the histogram.

