

HISTOGRAM

What it is:

A histogram is a bar graph that shows the central tendency and variability of a dataset. Histograms are sometimes referred to as frequency distributions. A histogram can help you:

- Understand the variability of a process.
- Quickly and easily determine the underlying distribution of a process.

How to use it:

Determine the type of data you want to collect. Be sure that the data is measurable, (for example, time, length, speed, etc.).

Collect the data. Collect as many measurable data points as possible. Collect data on one parameter at a time.

Count the total number of points you have collected.

Determine the number of intervals required. Use this table to determine how many intervals (or bars) the graph should have.

<i>If you have this many data points...</i>	<i>Then use this number of intervals.</i>
Less than 50	5–7
50–99	6–10
100–249	7–12
More than 250	10–20

Determine the range. Subtract the smallest value in the dataset from the largest. This value is the range of your dataset.

Determine the interval width. Divide the range by the number of intervals. Round your answers up to a convenient value. For example, if the range of the data is 17 and you have decided to use 9 intervals, then your interval width is 1.88. You can round this to 1.9 or 2.0. It is helpful to have intervals defined to one more decimal place than the data collected.