

## Histograms

A histogram is a special bar chart used to display the variation in continuous data such as time, weight, size, or temperature.

A histogram enables a team to see and study patterns that are not clear from looking at a table, or by finding the average or median.

### **Steps**

- 1) Collect continuous data (time, weight, size, or temperature).
- 2) Sort and tally individual values in the data and set the upper and lower limits.
- 3) Choose a bar (bin) width that breaks the range into 6 to 12 categories of equal width. Narrow bins give you more data resolution, but too many bins can be pointless.
- 4) Determine the bin boundaries. Remember that the values are continuous. This means that one bin must end where the next one starts. (e.g. Bin1=1-12 and Bin 2= 13-19 is wrong. Bin 1= 0- 12.4 and bin 12.5- 19.4).
- 5) Tally number of observations in each bin
- 6) Draw and give clear labels on axes.
  - a) The vertical axis is frequency; the horizontal axis is the variable under study.
- 7) Draw bars to the frequency of the variable. Adjacent bars should touch.
- 8) Title the chart, show total number of data values, and show any standards and limits.
- 9) Analyse and develop explanations for the pattern.