

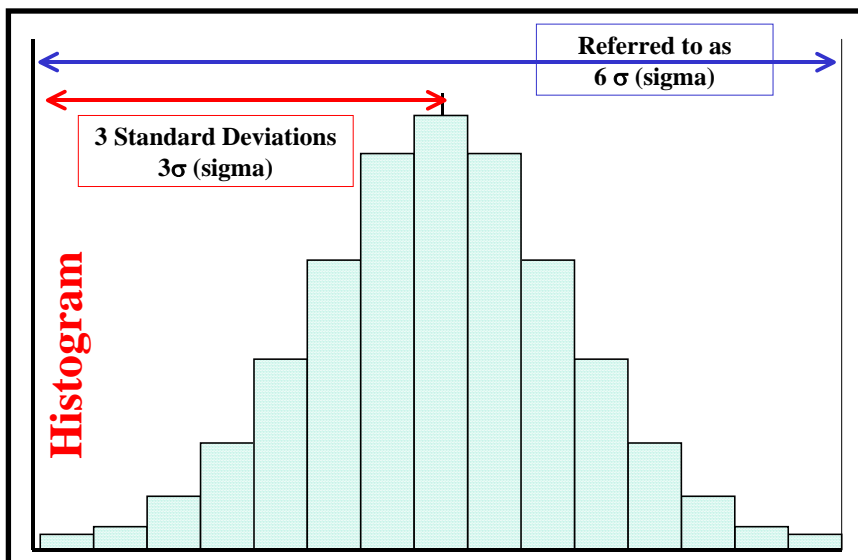
Histogram

What A Histogram takes measurement data and displays the distribution revealing the amount of variation that any process has within it.

When The Histogram is used when you need to discover and display frequency distribution, variability of distribution and deviation of data by bar-graphing the number of units in each category.

- How**
1. **Count the number of data points in a set of data:** Collect numerical data on a process. Count the number of data points.
 2. **Determine the range, R, of data:** Subtract the lowest data point from the highest.
 3. **Determine the number of classes, K:** Chart below will help you determine the number of classes.

# Data Points	Under 50	51 - 100	101 - 250	Over 250
#Classes	5 - 7	6 - 10	11 - 13	14 - 20
 4. **Determine class width, H:** Use the following formula: $H = R$ divided by K
 5. **Determine the class boundary:** Start with the lowest class number. This becomes the lowest boundary. Add the class width to the lowest boundary to make the upper boundary for the class. Use the next higher value of measurement as the lower boundary of the next class. Repeat steps b and c for the remaining classes.
 6. **Construct the Histogram:** Draw an axis table with frequency on the vertical bar and boundaries of classes on the base. Draw a rectangular bar relative to the collected data points and the chart scale.



CAUTION!

Some processes are naturally skewed. Don't expect every distribution to follow the bell curve.

If data suddenly stops at some point, such as the specification limits, question the validity of the data.

Twin peaks indicate data was taken from two or more sources.