

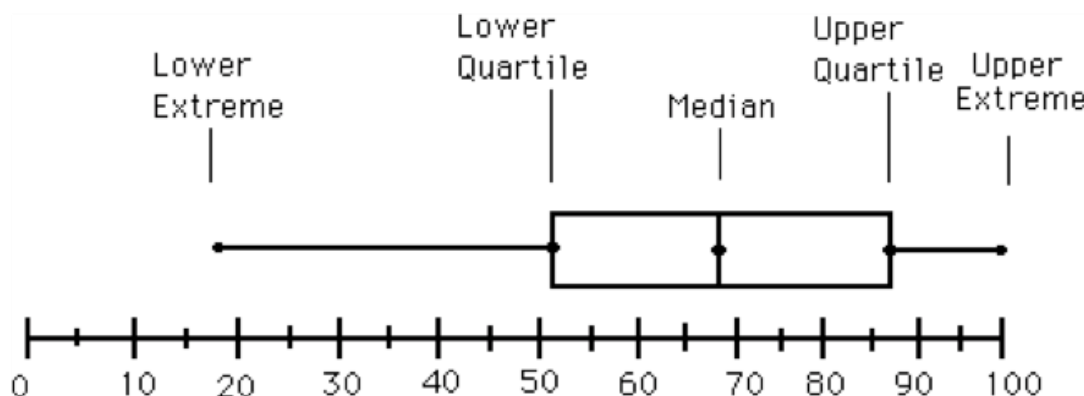
### Introduction to Module 9 – Statistics – note page

Mean	Median	Mode
The mean is the average of the numbers. Add up all the numbers, then divide by how many numbers there are.	First, put all the numbers in order. The median is the middle number.  If there is an even number of data points, the median will be the mean of the two middle numbers.	The mode is the value that occurs the most often.  If there is no value that repeats there is no mode.  There can be more than one mode.

#### How to make a box and whisker plot

1. Organize the data from least to greatest.
2. Find the high and low values. (Low = minimum or lower extreme , High = maximum or upper extreme)
3. Find the Median
4. Find the lower quartile (1<sup>st</sup> quartile) this is the median of the lower half of the data.
5. Find the upper quartile (3<sup>rd</sup> quartile) this is the median of the upper half of the data.
6. Next create a line graph with a scale that includes the data range. Making sure your intervals are consistent.
7. Above the line plot the minimum, maximum, median, lower quartile, upper quartile.  
Draw a rectangular box extending from the lower quartile to the upper quartile.  
Indicate the median with a vertical line extending through the box.
8. Connect the lower extreme to the lower quartile with a line (one "whisker") and the upper quartile to the upper extreme with another line (the other "whisker".)

Example (<http://www.webquest.hawaii.edu/kahihi/mathdictionary/images/boxplot.png>)



## How to make a Frequency table

1. Choose a range that includes all the data.
2. Divide that range into equal intervals
3. Count the number of data points in each interval. ( A tally can help you count the data)

Example ([http://www.brainfuse.com/quizUpload/c\\_19856/8-248.gif](http://www.brainfuse.com/quizUpload/c_19856/8-248.gif))

Height (m)	Tally	Frequency
60-69.9		13
70-79.9		4
80-89.9		0
90-99.9		2
100-109.9		0
110-119.9		1
120-129.9		1

## How to make a histogram

1. It is useful to make a frequency table before making a histogram. It will organize your information.
2. Divide the horizontal (x) axis using your intervals. Label the axis
3. Divide the vertical (y) axis, go high enough to include all the frequency amounts. Label this axis frequency.
4. For each interval draw a box. Draw a horizontal line above each interval marking the frequency. Then draw vertical lines on each side to make the box.

Example of a histogram – notice there are no spaces between intervals.

([https://www2.southeastern.edu/Academics/Faculty/dgurney/Math241/StatTopics/HistGen\\_files/image018.gif](https://www2.southeastern.edu/Academics/Faculty/dgurney/Math241/StatTopics/HistGen_files/image018.gif))

