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**Knowledge Rich Curriculum Plan**

Year 11 Higher+ Data and Statistics



| **Lesson/Learning Sequence**  | **Intended Knowledge:***Students will know that…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this…* | **Assessment**  |
| --- | --- | --- | --- | --- |
| **To learn how to solve problems involving cumulative frequency and box plots** | * Students will know how to draw a cumulative frequency table given the cumulative frequency
* Students will know how to calculate cumulative frequency and draw the resulting curve
* Students will know how to estimate values from a cumulative frequency curve
* Students will know how to estimate the median, quartiles and interquartile range from a cumulative frequency curve
* Students will know how to construct a box plot from their cumulative frequency curve
* Students will know how to solve problems involving cumulative frequency curves and box plots
 | **Cumulative** - increasing or increased in quantity, degree, or force by successive additions**Box Plot –** a statistical diagram used for graphically demonstrating the locality, spread and skewness groups of numerical data**Median –** the middle piece of data when the data is ordered from smallest to largest**Lower Quartile –** the median of the lower half of a data set. This is located by dividing the data set with the median and then dividing the lower half that remains with the median again**Upper Quartile –** the median of the upper half of a data set. This is located by dividing the data set with the median and then dividing the upper half that remains with the median again**Range –** the difference between the largest value in the data set and the smallest value in the data set**Interquartile Range** – the difference between the upper quartile and the lower quartile | * Students should already know how to draw a box plot
* Students should already know how to calculate cumulative frequency and draw a cumulative frequency curve
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| **To learn how to solve problems involving cumulative frequency and box plots** | * Students will know how to draw a cumulative frequency table given the cumulative frequency
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* Students should already know how to calculate cumulative frequency and draw a cumulative frequency curve
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| **To learn how to draw histograms** | * Students will know that histograms show frequency density
* Students will know that $frequency density=\frac{frequency}{class width}$
* Students will know how to draw a histogram for grouped data
 | **Histogram** – a graphical representation of discrete or continuous data where the area of a bar in a histogram is equal to the frequency**Frequency Density –** the frequency per unit for the data in each class | * Students will need to know how to draw a bar chart
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| **To learn how to interpret histograms** | * Students will know how to calculate frequency from a histogram and complete a grouped frequency table from a histogram.
* Students will know how to complete a partial histogram given a partially completed frequency table and vice versa
* Students will know how to estimate how many students are above/below/between values within a group/groups
* Students will know how to solve exam style problems involving histograms
* Students will know how to estimate the mean from a histogram with unequal class width.
* Students will know how to determine the median from a histogram
 |  | * Students will need to know how to calculate the median from a table
* Students will need to know how to draw a histogram
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