The Sutton Academy

Knowledge Rich Curriculum Plan

Year 11 Higher+ Data and Statistics

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Steps to Success	Prior Knowledge: *In order to know this…*	Feedback
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. **Upper Quartile –** the median of the upper half of a data set. **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	
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. **Upper Quartile –** the median of the upper half of a data set. **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 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	
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	