



The Sutton Academy

Knowledge Rich Curriculum Plan

Representing data



Lesson/Learning Sequence	Intended Knowledge: <i>Students will know that...</i>	Tiered Vocabulary	Prior Knowledge: <i>In order to know this students, need to already know that...</i>	Assessment
LO: To learn how to find outlier	<ul style="list-style-type: none"> Students will know that a common definition of an outlier is any value that is greater than $Q_3 + k(Q_3 - Q_1)$ or less than $Q_1 - k(Q_3 - Q_1)$. Students will be able to interpret data to and find outliers. Students will know that the process of removing anomalies from a data set is known as cleaning the data. Students will be able to find outliers from sets of data. 	Outlier – An extreme value that lies outside the overall pattern of data.	Students will need to know how to find measures of central tendency and measures of location.	
LO: To learn how to draw and interpret box	<ul style="list-style-type: none"> Students will know that a box ploy can be drawn to represent important features of the data (Quartiles, maximum and minimum values and outliers) Students will know that an outlier on a boxplot is represented as a cross Students will know how to draw box plots including outliers. Students will know how to interpret boxplots 		<p>Students will need to know what the lower quartile, median and upper quartile are.</p> <p>Students will need to know how to draw box plots.</p> <p>Students will need to know how to draw outliers</p>	
LO: To learn how to draw cumulative frequency diagrams.	<ul style="list-style-type: none"> Students will know how to cumulative frequency diagrams and find quartiles. Students will know how to draw a box plot given a cumulative frequency diagram. Students will know how to find percentiles from a cumulative frequency diagram. Students will know how to estimate data given a cumulative frequency diagram. 		Students need to know how to draw cumulative frequency diagrams	
LO: To learn how to draw a histogram	<ul style="list-style-type: none"> Students will know that to calculate the height of each bar (frequency density) use the formula $area\ of\ bar = k \times frequency$. Students will know that when $k=1$ the frequency density = Frequency/class width. Students will know that joining the top of the middle of each bar in a histogram forms a frequency polygon. Students will know how to estimate continuous data from a histogram. Students will know that the data needs to be continuous to use a histogram. Students will be able to draw and interpret histograms when k is not equal to 1. Students will know how to use interpolation to estimate values. 		<p>Students need to know hot to draw a histogram where $k=1$</p> <p>Students need to know how to interpolate.</p>	
Lo : To learn how to compare data	<ul style="list-style-type: none"> Students will know that when comparing data sets you can comment on a measure of location and a measure of spread. Students will know that when comparing data with extreme values the median and IQR are better indicators than mean and standard deviation. 		<p>Students will need to know what the lower quartile, median and upper quartile are.</p> <p>Students will need to know how to draw box plots.</p> <p>Students will need to know how to draw outliers</p>	