The Sutton Academy

Knowledge Rich Curriculum Plan

Year 7 Support – Data and Statistics 1

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to read and represent time.	• Students will know how to read time on a digital clock. • Students will know how to represent time on a digital clock. • Students will know how to read time on an analogue clock. • Students will know how to represent time on an analogue clock. • Students will know that there are 60 seconds in a minute, 60 minutes in an hour and 24 hours in a day. • Students will know how to convert between the 12 hour and 24-hour clock. **Opportunity for challenge:** • Students will know how to carry out simple conversions between minutes and hours with and without a calculator.	**Analogue clock –** a clock or watch that has moving hands and (usually) hours marked from 1 to 12 to show you the time	• Students should already know that there are 365 days in a standard year and 366 days in a leap year. • Students should already know that there are 7 days in a week. • Students should already know how many days are in each month. • Students should already know that there are 12 months in a year	Mini-Assessment 12
To learn how to use conversion graphs.	• Students will know how to use conversion graphs to do simple conversions with currency. • Students will know how to use conversion graphs to do simple conversions with metric and imperial units. **Opportunity for challenge:** • Students will know how to use conversion graphs to carry out conversions that involve scaling up.		• Students need to know how to convert between metric units.	Mini-Assessment 12
To learn about different types of data.	• Students will know how to identify and categorise data as qualitative and quantitative • Students will know how to identify and categorise data as discrete and continuous • Students will know that some sources of data may be biased and how bias occurs. **The tier 2 and tier 3 vocabulary should be introduced through extended reading**	**Sample** – a small part or quantity intended to represent the whole population. **Continuous data** – data that can take any value within a given range. For example, height, time, weight, temperature and length. **Population** – all the inhabitants of a particular place In statistics, a population is a set of similar items or events which is of interest for a question or experiment **Discrete data –** data that can only take certain numerical values. For example, shoe size, number of people and number of cars **Qualitative Data –** non-numerical data. **Quantitative Data –** numerical data **Bias** – inclination or prejudice for or against one person or group, especially in a way considered to be unfair.	•	Mini-Assessment 12
To learn how to find the mode and median from a list of data values.	• Students will know how to find the mode from a set of data values. • Students will know how to find the median from an odd amount of data values. **Opportunity for challenge:** • Students will know that there can be two modes. • Students will know that there can be no mode. • Students will know that if there is no mode we state it has no mode rather than put 0 • Students will know how to find the median from an even amount of data values.	**Mode –** the value that occurs most often in the data. If no number in the list is repeated, then there is no mode for the list. If there is more than one it is considered to be multi-modal **Median** – the middle piece of data when the data is ordered from smallest to largest	• Students need to know how to order integers.	Mini-Assessment 12

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to find the mean and range from a list of data values.	• Students will know that the range of a set of data is the difference between the largest and smallest values. • Students will know that the range measures the spread of the data. • Students will know that the mean is the average of a set of numbers. • Students will know that to find the mean of a data set, they must find the sum the numbers in the set and then divide that total by the number of numbers in the set.	**Mean –** the mathematical average of the set of two or more data values. It is calculated by adding up all of the data and dividing it by the number of pieces of data. **Range –** the difference between the largest and smallest values. This isn't actually an average – instead it tells us how spread out the data is.	• Students need to know how to add, subtract and divide integers.	Mini-Assessment 12
To learn how to collect data using a tally chart.	• Students will know how to construct and complete a tally chart for discrete data. • Students will know how to construct and complete a frequency table for discrete data. • Students will know how to calculate the total frequency from a frequency table. • Students will know how to read off frequency values from a frequency table. • Students will know how to plan their own investigation and collect the data in a tally chart for discrete data. **Opportunity for challenge:** • Students will know how to construct and complete a frequency table for continuous data.	**Tally Chart –** a simple way of recording and counting frequencies. Each occurrence is shown by a tally mark and every fifth tally is drawn diagonally to make a "gate" of five	• Students need to know that discrete data is data that can only take certain numerical values. • Students need to know that qualitative data is data with non-numerical data.	Mini-Assessment 12
To learn how to draw bar charts.	• Students will know that a bar chart is a diagram in which the numerical values of variables are represented by the height of bars of equal width. • Students will know that bar charts are used to represent data to make it easy to read and compare. • Students will know that we can only compare bars within the same scale. • Students will know how to draw, label and scale axes. • Students will know how to draw bar charts for discrete data. • Students will know how to construct a bar chart from information given in a tally chart. **Opportunities for challenge:** • Students will know how to draw bar charts for continuous data.	**Bar Chart –** a diagram in which the numerical values of variables are represented by the height or length of lines or rectangles of equal width	• Students need to know how to complete and interpret a tally chart.	Mini-Assessment 12
To learn how to interpret bar charts.	• Students will know how to read frequency values from a bar chart. • Students will know how to recognise simple patterns, characteristics and relationships in bar charts. • Students will know how to calculate total population from a bar chart or table. • Students will know how to find the greatest and least values from a bar chart. **Opportunity for challenge:** • Students will know how to compare data within a bar chart. • Students will know how to work out the mode from a bar chart.	**Mode –** the value that occurs most often in the data. If no number in the list is repeated, then there is no mode for the list. If there is more than one it is considered to be multi-modal	• Students need to know how to draw a bar chart.	Mini-Assessment 12