Knowledge Rich Curriculum Plan

Year 8 Support – Data and Statistics 2

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 draw and interpret pictograms.	• Students will know that a pictogram is a chart that uses pictures to represent data. • Students will know that we use pictograms to represent data in a more interesting and engaging way that makes it more memorable. • Students will know how to complete a pictogram given numerical values. • Students will know how to use the key to find frequency values from a pictogram. • Students will know how to interpret the data within a pictogram to answer simple questions. **Opportunity for challenge:** • Students will know how to draw a key for a pictogram.	Pictogram – a chart that uses pictures to represent data	• Students need to know how to multiply and divide integers.	Mini-Assessment 13
To learn how to draw stem and leaf diagrams.	• Students will know that a stem and leaf is a diagram that quickly summarizes data while maintaining the individual data points. • Students will know that we use stem and leaf diagrams to group all the data in to categories whilst still showing each individual result. • Students will know to draw stem and leaf diagrams by splitting the tens and units column. The tens column becomes the 'stem' and the units become the 'leaf'. • Students will know that stem and leaf diagrams must be in order to read them properly. • Students will know that stem and leaf diagrams require a key so that the data can be interpreted correctly.	Stem and Leaf Diagram – a diagram where each data value is split into a "leaf" (usually the last digit) and a "stem" (the other digits)	• Students need to know how to order numbers. • Students need to know how to identify the value of a digit within a number	Mini-Assessment 13
To learn how to interpret stem and leaf diagrams.	• Students will know that they must use the key to interpret the values on a stem and leaf diagram, eg. 3|7 = 37 and not just 7. • Students will know how to read values from a stem and leaf diagram. • Students will know how to find how many pieces of data are above or below a certain value. • Students will know how to use fractions to represent how many pieces of data are above or below certain values. **Opportunity for challenge:** • Students will know how to find the averages from a stem and leaf diagram.		• Students need to know how to draw a stem and leaf diagram.	Mini-Assessment 13
To learn how to complete two-way tables.	• Students will know that two-way tables are ways of sorting data so that the frequency of each category can be seen quickly and easily. • Students will know how to complete a two-way table with given information using a mixture of adding and subtracting. • Students will know how to fill in some values based on a worded problem and then complete two-way table using a mixture of adding and subtracting. • Students will know how to read and interpret values from a two-way table. **Opportunity for challenge:** • Students will know how to construct a two-way table based on a worded problem.		• Students need to know how to add and subtract numbers using a column.	Mini-Assessment 13

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 draw pie charts.	• Students will know that a pie chart is a circular statistical graphic which is divided in to slices to illustrate numerical proportion. • Students will know that we use a pie chart for expressing a part-to-whole relationship in a visual way which makes it easy to compare results. • Students will know how to construct pie charts for categorical data and discrete/continuous numerical data.	Pie Chart – a circular diagram which is divided into slices to illustrate numerical proportion Sector – a pie-shaped part of a circle made of the arc along with its two radii	• Students need to know how to draw angles using a protractor.	Mini-Assessment 13
To learn how to interpret simple pie charts	• Students will know how to interpret simple pie charts using simple fractions and percentages such as a half or 25%. • Students will know how to find the mode from a pie chart. • Students will know how to find the total frequency from a pie chart. • Students will know how to find the frequency represented by each sector. • Students will know that a sector is portion of a circle enclosed by two radii and an arc. **Opportunity for challenge:** • Students will know how to compare angles with values in a real-life context and use this to calculate the values of other angles or find the angles of other values.		• Students need to know how to measure angles • Students need to know how to calculate fractions of amounts	Mini-Assessment 13
To learn how to draw scatter graphs.	• Students will know how to draw scatter graphs from given data values. • Students will know how to finish a scatter graph that has been partially completed. • Students will know how to draw a line of best fit.	Scatter Graph – a type of mathematical diagram using coordinates to display values for two variables	• Students need to know how to plot and read coordinates.	Mini-Assessment 13
To learn how to interpret scatter graphs.	• Students will know if the data has positive correlation, negative correlation or no correlation. • Students will know how to describe the relationship between the two variables on a scatter graph. • Students will know that an outlier is a data point which falls outside the normal range of data. • Students will know how to identify outliers on a scatter graph. **Opportunity for challenge:** • Students will know how to use their line of best fit to estimate values from a scatter graph.	Outlier – a person or thing differing from all other members of a particular group or set Correlation – a mutual relationship or connection between two or more things.	• Students need to know how to plot a scatter graph. • Students will know how to draw a line of best fit.	Mini-Assessment 13