



Year 8

Unit 5

21 Lessons

Aims: Develop the statistical skills from prior learning to include data in a frequency table and an understanding of what the range of a set of data can tell us. Introducing the concepts of correlation and causation and recognising the dangers of extrapolation. Transforming shapes on a grid and considering when congruency is maintained.

Key Skills	Literacy Links:	Numeracy Links:
<p>Calculating the averages and range from raw data and frequency tables. Comparing data sets. Drawing appropriate graphs and diagrams to analyse and compare data. Drawing and measuring bearings. Solving problems involving bearings. Transforming shapes on a grid and describing these transformations mathematically.</p> <ul style="list-style-type: none"> • Excellence - Finding / estimating the averages from a grouped frequency table. Distinguishing between correlation and causation. Realising the risks of extrapolation. Recognising when transformations maintain congruency and when points remain invariant. • Secure - Finding the averages from a frequency table. Applying more than one transformation and describing transformations. Enlarging shapes using a centre of enlargement. Solving problems involving bearings. • Developing - Planning a statistical investigation. Comparing data sets using the averages and range. Recognising correlation. Drawing a line of best fit and using it to interpolate results. Measuring a bearing. Translating shapes using vector notation. Reflecting and rotation shapes on a grid. • Emerging - Calculating the averages from raw data. Plotting a scatter graph. Interpreting bar charts. Drawing and interpreting pictograms. Enlarging shapes (without centre of enlargement). 	<p>Keywords: Averages, median, pictogram, correlation, bearing, translation, vector, reflection, rotation, enlargement, invariant, transformation, frequency, causation, congruent.</p>	<p>Embedded throughout.</p>

Assessment	Cross-Curricular Links
<p>Pre-test at the beginning of the unit to establish prior learning, post-test at the end of the unit to determine progress.</p>	<p>Any subject involving statistical analysis – science, geography, psychology and others.</p> <p>SMSC opportunities and British values</p> <p>Data in the media – how this can be misleading and be used to present a biased view.</p>

Opportunities for further learning

Mymaths sections transformations in the GEOMETRY category and Processing data and Scatter graphs in the STATISTICS category.