



Learning Journey for Statistics

Summarising Data

How does this unit link to prior learning?	What will you be learning about?
<ul style="list-style-type: none"> • Collecting data - gathering information through surveys, experiments, and observations. • Organising data - using tables, tally charts, and frequency tables. • Calculating averages - mean, median, and mode. • Finding the range - measuring the spread of data. • Reading graphs and charts - extracting information from bar charts, line graphs, and pie charts. • Comparing datasets - identifying similarities and differences. • Using fractions, decimals, and percentages - interpreting and comparing data values. • Problem-solving with data - making conclusions from statistical information. 	•
	British Values
	<ul style="list-style-type: none"> • Individual Liberty - justification of choosing a type of average. • Rule of Law - use of formula for standard deviation and outliers. • Mutual Respect - listening and learning from both the teacher and peers to ensure a positive and productive learning environment.
	<p style="text-align: center;">Key vocabulary</p> <p>Mean, median, mode, range, upper quartile, lower quartile, interquartile range, percentiles, deciles, weighted mean, geometric mean, seasonal variation, interpercentile range, interdecile range, standard deviation, variation, outliers, index numbers, weighted numbers, retail index price, consumer price index, gross domestic product.</p>
Prior Knowledge	
<p>(1) Name the different averages</p> <p>(2) Here is a list of numbers.</p> <p style="text-align: center;">4 8 5 9 10 5 6 3 4</p> <p>(a) Work out the median.</p> <p>(b) Work out the mean.</p>	
We will develop our learning each week by focusing on:	
<p>Lesson 1: Averages from a List Calculate the mean, median, mode and range from discrete data.</p>	RAG
Lesson 2: Averages from a Table	

Calculate the mean, median and mode from grouped data from a frequency table.	
Lesson 3: Linear Interpolation Use interpolation to calculate an estimate for the median from histograms and grouped frequency tables.	
Lesson 4: Weighted Mean Calculate the weighted mean.	
Lesson 5: Geometric Mean Calculate the geometric mean.	
Lesson 6: Transforming Data Understand the effect on the mean, mode and median with transformed data.	
Lesson 7: Best Average to Use Justify rationale for selecting appropriate types of averages in context.	
Lesson 8: Quartiles for Discrete Data Calculate different measures of spread; range, quartiles, interquartile range.	
Lesson 9: Box Plots Construct, use and interpret box plots from summary statistics. and cumulative frequency graphs. Use box plots as a method to compare data.	
Lesson 10: Skew and Outliers Identify outliers by inspections from a box plot. Calculate outliers (H). Identify skew by inspection from a box plot and histogram. Calculate skew (H).	
Lesson 11: Percentiles Calculate the interpercentile and interdecile range.	
Lesson 12: Standard Deviation Calculate standard deviation for both continuous and discrete data.	
Lesson 13: Comparing Data Use calculated values or given measures of spread and tendency to compare data samples and to compare sample data with population data.	
Lesson 14: Revision Lesson Select resources to use to revise for the end of topic assessment	
Lesson 15: Assessment Lesson Do 10-minute top up and go through answers together, students to self assess Open book assessment done in silence	
Lesson 16: Feedback Lesson Students to highlight their traffic light sheet. Teacher to go through assessment and students to self-assess in green pen. Students to complete the NOW section of the WOW-HOW-NOW sheet.	

How will this help you in the future?

KS4

- **Geography** – summarising population, climate, and economic data using averages and ranges.
- **Biology** – summarising results from investigations using mean values and data tables.
- **Chemistry** – calculating average results from repeated experiments.
- **Physics** – summarising measurements such as speed, distance, and force.
- **Business Studies** – analysing sales, profits, and customer data using averages.
- **Computer Science** – interpreting and summarising datasets collected by computers and sensors.
- **PE** – summarising fitness and performance data.
- **History** – analysing population or economic statistics from different time periods.

Beyond LHS

- **Business** – summarising sales, profit, and customer data to support decision-making.
- **Healthcare** – analysing patient data and treatment outcomes.
- **Finance** – reviewing spending, income, savings, and investment performance.
- **Sports** – summarising player and team performance statistics.
- **Government** – analysing population, employment, and economic data.
- **Environmental science** – summarising climate and pollution data.
- **Engineering** – reviewing test results and performance measurements.
- **Technology** – analysing user activity and system performance data.