

Scheme of Learning: Year 8 Autumn Term

Topic Sequence: Representations

4	5	6
Working in the Cartesian Plane	Representing Data	Tables and Probability

Topic Overview: Representing Data

Students are introduced formally to bivariate data and the idea of linear correlation. They extend their knowledge of graphs and charts from Key Stage 2 to deal with both discrete and continuous data.

Lesson Sequence:

Draw and interpret scatter graphs

Students need to be confident in drawing and labelling axes. A wide range of examples will be used including a discussion of appropriate and inappropriate pairs of variables.

Linear correlation

Positive and negative correlation is explored including classification of weak and strong. Students will be able to decide if there is no correlation or nonlinear correlation.

Draw and use line of best fit

Student misconceptions need to be checked – the line does not need to go through the origin. Students need to understand that there are approximately the same number of points above and below the line. Also explore why the line is straight and not curved. Students need to show how they arrive at estimate by drawing additional lines on the graph. Explain term 'extrapolation' and ensure that students are aware of why it is not always sensible to make estimate outside range of data. Introduce outliers to students.

Identify non-linear relationships

Students decide if there is no correlation or non linear correlation. Explore possibility that with non linear correlation there may still be a relationship between the variables.

Identify different types of data

Students are introduced to discrete and continuous data, qualitative and quantitative data. Establish knowledge of different data types and which graphs and calculations are appropriate for each.

Ungrouped frequency tables

Students understand the word 'frequency' by counting numbers in given list and by completing tables. They interpret data from information in the table to answer questions in context.

Read and interpret grouped tables

Students explore when and when not to use an ungrouped frequency table. They consider sensible class boundaries for grouped frequency tables.

Represent grouped discrete data

Students populate grouped frequency tables from different types of sources.

Represent continuous data

Idea of rounding continuous data is explored, linking it to the use of inequality signs when writing class boundaries.

Represent data in two-way tables

Students start with concrete or pictorial representations to help them understand structure and purpose of a two-way table. Fractions, decimals and percentages are easily interweaved into this topic.

Sequence of Lessons:		Topic Resources:	
1	Draw and interpret scatter graphs	Knowledge Map:	Statistics – Ungrouped Data
2	Linear correlation	Assessment:	
3	Draw and use line of best fit	Knowledge:	End of Topic test
4	Identify non-linear relationships	Application of Knowledge:	Termly mixed topic assessment
5	Identify different types of data	Supportive Reading:	
6	Read and interpret ungrouped frequency tables	Any supported reading listed here	Sparx Maths www.sparxmaths.co.uk
7	Read and interpret grouped frequency tables		Corbett Maths : www.corbettmaths.com
8	Represent grouped discrete data		AQA Revision Guide
9	Represent continuous data grouped into equal classes		
10	Represent data in two-way tables		
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