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| Year 8 | **Topic: Unit 5 – Real life graphs****Period:** Spring 1 |
| **Overview of topic:**Students will build on their knowledge from year 7 and from earlier in year 8 (unit 3) in dealing with graphs, and extend it to include more complex graphs, charts and tables, and looking at how graphs are often less ‘perfect’ when dealing with real-world data.* Conversion graphs
* Distance-time graphs
* Line graphs
* Further line graphs
* Real-life graphs
* Curved graphs
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| **Key** **knowledge:*** A conversion graph converts values from one unit to another.
* In a distance–time graph
	+ the vertical axis represents the distance from the starting point
	+ the horizontal axis represents the time taken.
* On a distance–time graph the gradient (steepness) of the line represents the speed of the journey.
* The steeper the line, the faster the speed.
* The shape of a line graph shows whether a quantity is increasing or decreasing.
* Understand that a graph may show seasonal or other variations, but still show an upward or downward trend
* Line graphs can help you identify trends in the data. The trend is the general direction of change, ignoring individual ups and downs.
* A linear graph is a single straight line.
* A non-linear graph is not a single straight line.
* You can interpret graphs from real-life situations by reading values and suggesting what they mean
 | **Key skills:** * Draw, use and interpret conversion graphs
* Interpret a distance–time graph
* Draw a simple distance–time graph
* Draw and use graphs to solve distance–time problems
* Draw and interpret line graphs
* Draw and interpret line graphs and identify trends
* Draw and interpret linear and non-linear graphs from a range of sources
* Draw and interpret curved graphs from a range of sources

**Key vocabulary:**

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| Tier 2 | Tier 3 |
| * Conversion
* Vertical
* Horizontal
* Gradient
* Quantity
* Variations
* Trend
* Data
* Interpret
 | * Graph
* Linear
* Non-Linear
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| **Co-curricular opportunities:** Data handling skills are a vital key skill across multiple other areas of study including Science, Geography, PE and many others. The ability to assess the reliability of a source has similar implications to analysing source material in History and English | **Key reading skills taught and key texts:**Clarify – identify key vocabulary in questions and be fluent in understanding the meaningsQuestion – from a worded question, what Maths is required to be done in order to get a solution?**Wider Reading Opportunities/Links:** |
| **How can I use this information at home?*** Conversation starters with your children to discuss their learning
* Support your child in carrying out independent research around the topic
* Visit your local library (or BorrowBox), museums, or other locations to explore the topic
* Promote books/other texts that explore this topic (see reading section)
* Help your child to learn the key vocabulary
* Encourage practice and consolidation through completion of homework, SparxMaths times tables and using other online learning platforms
* Encourage them to practice their mathematical skills in a variety of everyday situations wherever the opportunity arises.
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