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| **Key Topics and Learning Sequence**  |
| **= First Steps** |  **= Moving On** |  **= Stretch** |  **= Challenge** |
| 1. **Drawing conclusions from charts and graphs**
2. How to **read** information from **graphs** and **charts**
3. **Writing** about what a **bar chart** or **vertical line chart** shows
4. **Writing** about what a **pie chart** shows
5. **Writing** about what a **line graph** shows
 | 1. **Problems with data representations**
2. Be able to **critique** the integrity of chosen **scales** on bar and vertical line charts
3. Understand the **limitations** of **pie charts**, and investigate adapted infographics
4. Explore the impact of **anomalies** and **outliers**
 | 1. **Comparing charts and graphs**
2. Compare **bar charts** (including **dual** and **stacked**)
3. Compare **pie charts** (including scaled pie charts)
4. Compare **box plots**
5. Compare a range of **infographics**
 | 1. **Trends over time**
2. Look at scatter graphs, lines of best fit, **correlation and causation**
3. Line graphs and **trend lines**
4. **Cyclical variation** and trends over time
5. **Moving averages** and trends
 | 1. **Data in Context**
2. **Interpret** data in the **context** of **racial inequality** in society
3. **Interpret** data in the **context** of **other inequalities** in society
4. **Interpret** data in the **context** of **climate change**
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| **How does this unit fit into your mathematical learning journey?** | **Further Exploration, Enrichment and Cultural Capital** |
| This unit of work builds on work you did in **Year 9 on averages** where you looked at different ways of **representing data.** Here we extend that into being able to **critically interpret** the ways data is presented and being able to **draw conclusions** from data **and communicate** that clearly and mathematically. | **Reading:**  Read The Art of Statistics by David Spiegelhalter (in school library)**Enrichment:**  Watch the Royal Institution Christmas lecture from 2021 on how COVID changed science**Cultural Capital:**  Visit the Florence Nightingale museum in London to see how she used data and statistics to transform nursing and health care <https://www.florence-nightingale.co.uk/> |

**LPS Mathematics: Year 10 Unit 3 - Interpreting and Reasoning with Data**

 **Enquiry Question:** “**Should you always believe a graph or chart?”**

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**Date: Initial Thoughts:**

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**Date: New Thoughts:**

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**Date: Final Thoughts:**

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