

Summer Half Term 2 – Reasoning with data

Block 4 – Weeks 7 to 10

Block 5 – Weeks 11 and 12

The data handling cycle

- Understand and use primary and secondary sources of data
- Collect data, including using questionnaires
- Interpret and construct statistical diagrams, including multiple bar charts
- Construct and interpret pie charts
- Compare distributions using charts
- Identify misleading graphs

Measures of location and dispersion

- Revisit the median and mean, including finding the total given the mean
- Find the mean of grouped data
- Work out the mode and modal class
- Choose the appropriate average
- Comparing distributions using measures

Notes/Links/Interleaving

- Revisit finding the range
- Use algebraic substitution to form lists for averages and the range
- Links to data collection and representation in other areas of the curriculum

Additional Higher Content

- Find unknown data values given the mean or changes in the mean
- Explore histograms for unequal groups
- Find the median from a table of values

How do these topics benefit students in their real lives? What is the Cultural Capital offer?

Students will build their reasoning and logical thinking skills. Habit skills used include the ability to think flexibly, communicating with clarity, applying past knowledge of Data skills such as data collection/averages.

The knowledge of Data will enable students to understand the ever-increasing technological world. Statistics are used in many various jobs, for example following trends in marketing. There are many cross curricular links here, particularly in Humanities.

Fluency (substantive knowledge)

- Draw and interpret pictograms, bar charts and vertical line charts
- Draw and interpret pie charts
- Draw and interpret line graphs
- Find and interpret the range

- Understand and use the mean, median and mode
- Find the mean from an ungrouped frequency table
- Find the mean from a grouped frequency table

Reasoning (disciplinary knowledge)

- Set up a statistical enquiry
- Design and criticise questionnaires
- Choose the most appropriate diagram for given set of data
- Represent and interpret grouped qualitative data

- Choose the most appropriate average
- Identify outliers
- Compare distributions using averages and the range

Problem Solving (disciplinary knowledge)

- Compare distributions using charts
- Identify misleading graphs

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