

Using *climateprediction.net* data for GCSE maths

Try using these sample data sets to help investigate and understand the following competence statements (taken from OCR GCSE in Mathematics B (MEI) 1968 syllabus):

4.5 (f) Appreciate that **correlation** is a measure of the strength of the association between two variables; distinguish between positive, negative and zero correlation using lines of best fit; appreciate that zero correlation does not necessarily imply “no relationship” but merely “no linear relationship”

Temperature and precipitation in sample model data

4.4 (f) Calculate an appropriate **moving average**
4.5 (b) Identify seasonality and trends in **time series**

Seasonal temperature data

e.g. to perform (4-point) moving average on- result shows trend.

- 4.3 (a) Collect data using various methods, including observation, controlled experiment, data logging, **questionnaires** and surveys
- 4.3 (b) Gather data from **secondary sources**, including printed tables and lists from ICT-based sources
- 4.3 (d) Deal with practical problems such as non-response or missing data
- 4.4 (a) Draw and produce, using paper and ICT, pie charts for categorical data, and diagrams for continuous data, including line graphs (time series), scatter graphs, frequency diagrams, stem-and-leaf diagrams, cumulative frequency tables and diagrams and box plots
- 4.5 (a) Relate summarised data to the initial questions

Use the following resources to motivate an open-ended task to practice these competences.

- Information for teachers
- Introductory PowerPoint
- Information sheet 1
- Information sheet 2
- Information sheet 3
- Sample questionnaire
- Sample Results
- Sample Newspaper article
- Mori poll [mori_poll.pdf](#)

4.5 (h) Compare **experimental data** and **theoretical probabilities**

4.5 (i) Understand that if they **repeat an experiment** they may – and usually will – get different outcomes, and that increasing the sample size generally leads to better estimates of probability and population parameters

Dice experiment

- Introduction PowerPoint
- Information for teachers
- Worksheets
- Excel programme