

UNIT 20

Statistics

TOPICS

- 20.1 *Data Collection*
 - 20.2 *Presentation of Data*
 - 20.3 *Measures of Location and Spread: Box and Whisker Plots*
 - 20.4 *Weighted Averages: Index Numbers*
 - 20.5 *Birth and Death Rates*
 - 20.6 *Time Series Analysis: Moving Averages*
 - 20.7 *Correlation and Regression*
 - 20.8 *Distributions*
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OH Slides

- 20.1 *Box and Whisker Plots*
 - 20.2 *Time Series Analysis*
 - 20.3 *Correlation*
 - 20.4 *Regression Lines*
 - 20.5 *Spearman's Rank Correlation Coefficient*
 - 20.6 *Standardised Scores*
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Revision Tests

- 20.1 }
20.2 } Up to and including content for Grade C
20.3 }
- 20.4 }
20.5 } Up to and including content for Grade A*
20.6 }

UNIT 20 *Statistics*

Teaching Notes

Background and Preparatory Work

This unit extends the statistics content in MEP, namely

UNITS 5, 8 and 9

to cover the major topics needed for a *GCSE Statistics* course.

Currently, *GCSE Statistics* is available from two exam groups – NEAB and SEG. A summary of each of the assessment frameworks is given below.

NEAB (from 1998)

| | | | | | |
|---------------|------------|-----------------------|--------------------|---|-------------|
| <i>Tier P</i> | Paper 1 | 1 $\frac{1}{4}$ hours | 32 $\frac{1}{2}$ % | } | Grades G–C |
| | Paper 2 | 1 $\frac{1}{2}$ hours | 42 $\frac{1}{2}$ % | | |
| | Coursework | | 25% | | |
| <i>Tier Q</i> | Paper 2 | 1 $\frac{1}{2}$ hours | 32 $\frac{1}{2}$ % | } | Grades E–A* |
| | Paper 3 | 2 hours | 42 $\frac{1}{2}$ % | | |
| | Coursework | | 25% | | |

SEG (from 1999)

| | | | | | |
|------------------------|------------|-----------------------|-----|---|-------------|
| <i>Foundation Tier</i> | Coursework | | 20% | } | Grades G–C |
| | Paper 2 | 2 hours | 80% | | |
| <i>Higher Tier</i> | Coursework | | 20% | } | Grades E–A* |
| | Paper 3 | 2 $\frac{1}{2}$ hours | 80% | | |

N.B. In 1998, Grade C is *not* available on the *Foundation Tier* with SEG, except for exceptional performance.

Each exam group has a broadly similar syllabus, although there are topics such as:

- simple combinatorics
- absolute and relative errors

which are only in the SEG syllabus and we have not covered these in this Unit.

The material in this Unit essentially covers only the extra topics needed beyond *GCSE Mathematics*, although some of the earlier material (in Units 5, 8 and 9) is included for revision in the exercises.

The *Revision Tests* cover all the major topics in the GCSE, the content of the first three tests being appropriate for grades up to and including Grade C, and that of the last three tests being appropriate for grades up to and including Grade A*.

RT 20.1 – 20.3

RT 20.4– 20.6

Teaching Points

Please refer to the *Teaching Notes* for Units 5, 8 and 9.

We have not included any new activities here but, again, please refer to the relevant activities in the earlier units. We have, though, included a number of OH slides which you might find useful in teaching some of the new topics.

OH 20.1 – 20.6

Coursework

The coursework component:

- 25% for NEAB
- 20% for SEG

is clearly an important part of the assessment. You are advised to read the coursework criteria for each exam group very carefully in the official syllabuses.

One important thing to note is that, provided the relevant criteria for *GCSE Statistics* and *GCSE Mathematics* are covered, candidates can use the same piece of coursework for both assessments – but do be careful to ensure that the stated criteria are met.