

Statistics GCSE 9-1 Revision

Statistics students should be revising for the 2 paper November 2021 PPE. This will be 2 full past papers comprising of 80 marks in 90 minutes for each one. Both papers are calculator papers. Students are advised to revise the following topics. Those in red are for pupils taking the Higher tier papers only.

Unit 1 – Collection of data:

- Describing data
- Grouping data
- Primary and secondary data
- Populations including **estimating population size**
- Random, non-random and stratified sampl
- Collection of data
- Questionnaires and interviews
- Problems with collected data
- Controlling extraneous variables and designing investigations

Unit 2 – Processing and representing data:

- Tables, two-way tables
- Pictograms, bar charts
- Stem and leaf diagrams
- Pie charts, **comparative pie charts**
- Population pyramids
- Choropleth maps
- Histograms and frequency polygons
- Cumulative frequency charts
- The shape of a distribution
- **Histograms with unequal class widths**
- Misleading diagrams
- Choosing the right format

Unit 3 - Summarising data:

- Averages (including from frequency tables and grouped data)
- Transforming data
- **Geometric and weighted mean**
- Measures of dispersion for discrete data and **grouped data**
- **Standard deviation**
- Boxplots, outliers **including calculations of outliers**), skewness **(including calculating skew)**
- Deciding which average to use, comparing data sets, making estimates

Unit 4 : Scatter diagrams and correlation

- Scatter diagrams
- Correlation
- Causal relationships
- **Line of best fit**
- Interpolation and extrapolation
- **The equation of a line of best fit**
- Spearman's rank correlation co-efficient and **calculating SPCC**
- **Pearson's product moment correlation coefficient**

Unit 5 – Time series:

- Line graphs and time series
- Trend lines
- Variations in a time series
- Moving averages
- **Making seasonal variations and predictions**

Unit 6 – Probability:

- Experimental probability
- Using probability to assess risk

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- Sample space diagrams
- Venn diagrams
- Mutually exclusive and exhaustive events
- **The general addition law**
- Independent events
- Tree diagrams
- Conditional probability including the formula for conditional probability

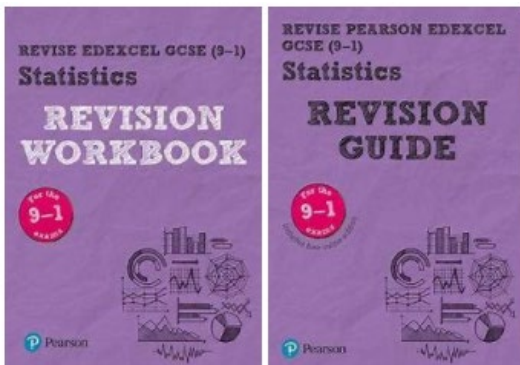
Unit 7– Index numbers:

- Index numbers
- RPI, CPI and GDP (**including calculate and interpret weighted index numbers**)
- **Chain based index numbers**
- Rates of change (**including calculating standardised birth and death rates**)

Unit 8 – Probability distributions:

- **Binomial distributions**
- **Normal distributions**
- **Standardised scores**
- **Quality assurance and control charts**
- **Making seasonal variations and predictions**

Students can use the following resources to aid their revision:



Students should use the guide to help revise each topic and then answer the questions in the workbook to test themselves. They have been provided with a copy of each already. Students can also access revision material for certain topics on the following websites:

Mathswatch: <https://vle.mathswatch.co.uk/vle/>

Maths Genie – Statistics Genie: <https://www.mathsgenie.co.uk/statistics.html>

BBC Bitesize: <https://www.bbc.co.uk/bitesize/topics/ztwx4j6>

Statsacademy: <https://www.statsacademy.co.uk/exam-practice>

Students should also use the knowledge organisers on Teams (files)