

# Statistics and probability

Grade	I can....
9	Understand how sample size and structure can affect results
8	Solve problems involving histograms and frequency density Understand how bias affects results Calculate, compare and describe measures of spread using cumulative frequency and box plots Use tree diagrams to solve problems involving conditional probability Understand how one event can be affected by another in conditional probability
7	Construct and interpret histograms Solve problems using cumulative frequency diagrams Find medians, quartiles and interquartile range from a cumulative frequency diagram Use and describe different methods of sampling Calculate the numbers needed for stratified sampling Use a tree diagram for specific outcomes of combined events
6	Plot cumulative frequency curves Construct box plots Use box plots to compare data Calculate combined probabilities for independent events Draw and use a tree diagram for combined events
5	Estimate the mean from grouped data Find upper and lower quartiles in a set of data and interquartile range Calculate relative frequency Construct tree diagrams
4	Find the modal class and identify the group with the median value for grouped data Recognise and describe causes of bias Draw and interpret frequency polygons Draw a line of best fit and describe correlation on a scatter diagram Construct and interpret Venn diagrams Understand and identify relative frequency
3	Decide how to group data using class-intervals. Calculate and interpret the mean, mode, median and range from a frequency table Construct a pie chart Construct and interpret a stem and leaf diagram Construct a scatter diagram and describe the relationship Find all combinations of two events Describe probabilities as fractions, decimals and percentages
2	Identify the difference between continuous and discrete data Calculate the mean, mode, median and range from a set of numerical data Explain what a pie chart shows, involving fractions and percentages Find theoretical probability and experimental probability
1	Record data in a frequency table Group data in equal classes and display in a table Use and explain mode and range Explain what a bar chart, pictogram and a simple pie chart shows Collect and present data e.g. frequency tables, line graphs etc. Position or describe events on a probability scale from 0 to 1
E3	Gather information and decide how best to present it. Be able to interpret this data Use the language of probability
E2	Ask and answer questions about information collected and recorded Collect some information and make a simple record of your findings
E1	Use pictures, objects or numbers to record sorting work Sort objects into simple sets