

Grade 6: Data Management and Probability

Overall Expectations

By the end of Grade 6, students will:

- collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including continuous line graphs;
- read, describe, and interpret data, and explain relationships between sets of data;
- determine the theoretical probability of an outcome in a probability experiment, and use it to predict the frequency of the outcome.

Specific Expectations

Collection and Organization of Data

By the end of Grade 6, students will:

- collect data by conducting a survey (e.g., use an Internet survey tool) or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements;
- collect and organize discrete or continuous primary data and secondary data (e.g., electronic data from websites such as E-Stat or Census At Schools) and display the data in charts, tables, and graphs (including continuous line graphs) that have appropriate titles, labels (e.g., appropriate units marked on the axes), and scales (e.g., with appropriate increments) that suit the range and distribution of the data, using a variety of tools (e.g., graph paper, spreadsheets, dynamic statistical software);
- select an appropriate type of graph to represent a set of data, graph the data using technology, and justify the choice of graph (i.e., from types of graphs already studied, such as pictographs, horizontal or vertical bar graphs, stem-and-leaf plots, double bar graphs, broken-line graphs, and continuous line graphs);
- determine, through investigation, how well a set of data represents a population,

on the basis of the method that was used to collect the data (**Sample problem:** Would the results of a survey of primary students about their favourite television shows represent the favourite shows of students in the entire school? Why or why not?).

Data Relationships

By the end of Grade 6, students will:

- read, interpret, and draw conclusions from primary data (e.g., survey results, measurements, observations) and from secondary data (e.g., sports data in the newspaper, data from the Internet about movies), presented in charts, tables, and graphs (including continuous line graphs);
- compare, through investigation, different graphical representations of the same data (**Sample problem:** Use technology to help you compare the different types of graphs that can be created to represent a set of data about the number of runs or goals scored against each team in a tournament. Describe the similarities and differences that you observe.);
- explain how different scales used on graphs can influence conclusions drawn from the data;
- demonstrate an understanding of mean (e.g., *mean* differs from *median* and *mode* because it is a value that “balances” a set of data – like the centre point or fulcrum in

E-Stat; Census at School

E-Stat or Census At Schools

TinkerPlots