

# COMPUTING

## MODELLING DATA SPREADSHEETS

Spreadsheets use data which is held in cells.

**Data and information** are not the same.

- **Data:** facts and figures in their raw form
- **Information:** data that has been given structure or meaning

For example:

**Data**—10, 2107, 18

**Information**—Time 10am, date 21st July, temperature 18°

Data can be gathered from different sources

- **Primary** source: collecting data yourself
- **Secondary** source: someone else collects the data

Each box on a spreadsheet is called a **cell** and they hold data.

Each **cell** has a unique **cell reference** to identify its location.

Example G7

In order to complete calculations spreadsheets make use of **formula**.

A formula uses the following basic symbols  
The = symbol is always at the start of a formula  
The + symbol is used for addition  
The - symbol is used for subtraction  
The \* symbol is used for multiply  
The / symbol is used for divide

Functions are also used which are predefined formula.

Spreadsheets are used to model data.

That means that they can be used to perform calculations on data and make predicts.

The image shows a screenshot of a spreadsheet application (likely Microsoft Excel) with several annotations. A box labeled 'Cell reference' points to a circled cell in the grid. A box labeled 'Formula bar' points to the input area above the grid. A box labeled 'Column— runs down a sheet assigned a letter' points to a column header. A box labeled 'Row— runs across the sheet assigned a number' points to a row header. A box labeled 'sheets— Individual pages in a workbook' points to the 'Sheet1' tab at the bottom.

Common **functions** are

**SUM**—adds a range of cells

**MAX**—returns the largest value from selected cells

**MIN**—returns the smallest value from selected cells

**AVERAGE**—provides the arithmetic mean (average) of selected cells

**COUNTIF**—counts the number of cells in a range that meet the given criteria

**IF**— allows logical comparisons

**COUNTA**—counts cells that are not empty

The tool bar at the top allows for **formatting** of the data. Changing colour, size, style etc

There is a **sort** and **filter** tool that allows for data to be arranged in ways that is most useful for the user e.g. alphabetical, highest first etc.

**Conditional formatting** can be set to allow the cell **formatting** to **automatically** change if certain criteria is met. For example a cell might turn red if there was a negative number