

Unit 3—Spreadsheets...

HCCS STEM—Computer Science, IT, Engineering, Food/Nutrition, Business Studies

What do I need to be able to do?

1. understand the fundamental components of a spreadsheet, such as cells, rows, and columns, and accurately enter and organise data within them
2. perform calculations using basic arithmetic formulas (addition, subtraction, multiplication, division) and apply spreadsheet functions like SUM, COUNT, MIN, MAX, AVERAGE, COUNTIF, and IF to analyse numerical data.
3. analyse data, distinguish between data and information, identify primary and secondary data sources, and present information clearly using sorting, filtering, various formatting (including currency, percentage, and conditional formatting), and appropriate charts

Keywords

Spreadsheet: A program that helps you organise and calculate information in tables made of rows and columns.

Cell: A single box in a spreadsheet where you can put data, like a number or a word.

Cell Reference: The unique name for a cell, such as A1 or B5, which tells you its exact location using its column letter and row number.

Data: Raw facts and figures that you collect, which are usually unorganised before analysis.

Information: Organised facts and figures that have been given meaning, making them useful to understand.

Formula: A set of instructions that begins with an equals sign (=), telling the spreadsheet to perform a calculation using values from cells.

Function: A special pre-built command in a spreadsheet, like SUM or AVERAGE, that helps you do common or complex calculations quickly.

Autofill: A clever tool that helps you quickly copy formulas or repeat patterns down a column or across a row in your spreadsheet.

Spreadsheets teaches you how to effectively use a digital table to organise, calculate, analyse, and present information. You will learn the fundamental components of a spreadsheet, such as cells, rows, and columns. You'll understand how each cell has a unique cell reference (like A1), made up of its column letter and row number, which helps you locate specific data. The unit progresses to showing you how to make the spreadsheet perform calculations automatically by writing formulas that always start with an equals sign (=), using basic arithmetic like addition, subtraction, multiplication, and division. You also learn to use functions, which are special pre-built commands like SUM, COUNT, MAX, MIN, AVERAGE, COUNTA, COUNTIF, and IF, to quickly analyse numerical data.

You must understand the difference between raw data and meaningful information, and identifying whether data comes from primary (you collected it yourself) or secondary (someone else collected it) sources. A key part of what the assessment looks for is how you gain skills in analysing data by sorting and filtering it, applying various formatting (including currency, percentage, bold, and borders) to make information readable, and using conditional formatting to highlight important values. You will also learn to present your findings visually using appropriate charts, such as pie or column charts, to make your data easier to understand at a glance.

The unit is assessed through a series of **practical challenges** in the last four lessons, where students apply their spreadsheet skills to create and analyse data for specific scenarios such as a school club register, a school trip budget, survey results, and sports day outcomes. Assessment is based on the **accuracy and completeness of data entry**, the **correct implementation of various formulas and functions** (including SUM, COUNT, MIN, MAX, AVERAGE, COUNTIF, and IF), the **effective application of formatting** (such as bolding, borders, currency, percentage, and conditional formatting), and the **appropriate creation of charts** to clearly present information

10 Test your understanding questions

Here are 10 multiple-choice questions summarising the whole unit:

1. What are the key parts of a spreadsheet interface?
A) Columns, rows, and cells, B) Pages, paragraphs, and words, C) Slides, animations, and transitions, D) Databases, tables, and records
2. What symbol must you use at the beginning of a cell when you want to use a function or a formula in that cell?
A) #, B) @, C) =, D) \$
3. What is the difference between data and information?
A) Data is organised facts, while information is raw facts, B) Data is raw facts and figures, while information is organised facts and figures that have meaning, C) Data is always numbers, while information is always text, D) There is no difference; they mean the same thing.
4. If you conducted a survey in your class to find out everyone's favourite colour, what kind of data source would this be?
A) Secondary, B) Tertiary, C) Primary, D) Indirect
5. Which spreadsheet function is used to count the number of non-blank cells in a range?
A) COUNT, B) SUM, C) COUNTA, D) AVERAGE
6. Which function would you use to find the largest value in a list of numbers?
A) MIN, B) MAX, C) AVERAGE, D) SUM
7. What is the main purpose of the 'Autofill' tool in a spreadsheet?
A) To automatically generate charts, B) To quickly copy formulas or repeat patterns down a column or across a row, C) To check for spelling errors in your data, D) To automatically sort your data from A to Z.
8. What is the primary reason for creating charts in a spreadsheet?
A) To make the spreadsheet file smaller. B) To hide sensitive data from view, C) To add colours and designs to the spreadsheet, D) To visually represent data, making it easier to understand and analyse.
9. What does a cell reference like "C4" tell you?
A) It's the cell where column C meets row 4, B) It's the third row in column A, C) It's a calculation to multiply C by 4, D) It's the fourth column in row C.
10. Which type of formatting allows you to automatically change the colour of cells based on specific rules, like if a number is greater than 10?
A) Currency formatting, B) Percentage formatting, C) Conditional formatting, D) Bold formatting

10 Test your understanding answers

1: A, 2: C, 3: B, 4: C, 5: C, 6: B, 7: B, 8: D, 9: A, 10: C