

Year 6 – Spreadsheets

Unit introduction

This unit introduces the learners to spreadsheets. Learners are supported in organising data into columns and rows to create their own data set. They are taught the importance of formatting data to support calculations. Learners are introduced to formulas and begin to understand how these can be used to produce calculated data. They are taught how to apply formulas which include a range of cells and apply formulas to multiple cells by duplicating them. Learners use spreadsheets to plan an event and answer questions. Finally learners create graphs and charts and evaluate their results in comparison to questions asked.

Overview of lessons

Lesson	Brief overview	Learning objectives
What is a spreadsheet?	During this lesson learners will understand that a spreadsheet is a computer application that allows users to organise, analyse and store data in a table. They will begin to realise the importance of data headings. Learners will answer questions about a spreadsheet and then create their own questions that can be answered using a given set of data.	To identify questions which can be answered using data • I can explain the relevance of data headings • I can answer questions from an existing data set • I can ask simple relevant questions which can be answered using data
Modifying spreadsheets	During this lesson learners will be taught that objects can be described using data. They will build a data set (a collection of related data that	To explain that objects can be described using data

	can be manipulated using a computer) within a spreadsheet application and apply appropriate number formats to cells.	• I can explain what an item of data is • I can apply an appropriate number format to a cell • I can build a data set in a spreadsheet application
What's the formula?	During this lesson learners will begin to use formulas to produce calculated data. They will understand that the type of data in a cell is important (e.g. numbers can be used in calculations whereas words cannot). Learners will create formulas to use in their spreadsheet using cell references and identify that changing inputs will change the output of the calculation.	To explain that formula can be used to produce calculated data • I can explain the relevance of a cell's data type • I can construct a formula in a spreadsheet • I can identify that changing inputs changes outputs
Calculate and duplicate	During this lesson learners will recognise that data can be calculated using different operations: multiplication, subtraction, division and addition. They will use these operations to create formulas in a spreadsheet. Learners will then begin to understand the importance of creating formulas that include a range of cells and the advantage of duplicating in order to apply formulas to multiple cells.	To apply formulas to data, including duplicating • I can recognise that data can be calculated using different operations • I can create a formula which includes a range of cells • I can apply a formula to multiple cells by duplicating it
Event planning	During this lesson learners will plan and calculate the cost of an event using a spreadsheet. They will use a predefined list to choose what they	To create a spreadsheet to plan an event

	would like to include in their event, and use their spreadsheet to answer questions on the data they have selected. Learners will be reminded of the importance of organising data and then create a spreadsheet using formulas to work out costs for their event.	• I can use a spreadsheet to answer questions • I can explain why data should be organised • I can apply a formula to calculate the data I need to answer questions
Presenting data	During this lesson learners will acquire the skills to create charts in Google Sheets. They will evaluate results based on questions asked using the chart that they have created. Finally, learners will outline their understanding that there are different software tools available within spreadsheet applications to present data.	To choose suitable ways to present data • I can produce a graph • I can use a graph to show the answer to questions • I can suggest when to use a table or graph

Progression

This unit progresses students' knowledge and understanding of data and teaches them how to organise and modify data within spreadsheets.

Please see the learning graph for this unit for more information about progression.

Curriculum links

[National curriculum links](#)

- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

[National curriculum maths links](#)

Number – addition, subtraction, multiplication and division:

- Solve problems involving addition, subtraction, multiplication and division

Statistics:

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average.

[Education for a Connected World links](#)

Managing information online

- I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites).
- I can use different search technologies.
- I can evaluate digital content and can explain how I make choices from search results.

Assessment

Summative assessment

- Please see the assessment question and answer documents for this unit.

Subject knowledge

It would be beneficial for teachers to have an understanding of a spreadsheet application e.g. 'Google Sheets' or alternative software such as 'Microsoft Excel' or 'Purple Mash – 2Calculate'.

An understanding that data can be words, numbers, dates, images, sounds, etc. without context is important. Just as words need to be in a sentence to give them meaning, data items need to be part of a structure. For example, number 6 isn't data unless it's part of a larger structure, such as included in a spreadsheet with data headings. Understanding that a data set is a collection of related data that can be modified using a computer is helpful, as learners will be creating their own data sets throughout the unit.

Knowledge of why data headings are important and an understanding of how data is organised in columns and rows would be beneficial. Organising data is an important aspect of data and information. It supports the use of calculations and provides the opportunity to use sorting and filtering, which enables ease of use and reduces human error.

This unit focuses on the learners applying number formats to alter cells. It is important to understand that this type of formatting changes how a spreadsheet interacts with the data and is different to applying style formatting (bold, italics, etc.), which only changes the appearance of data.

In Lesson 5 of this unit, learners have been provided with the mathematical calculations they need to complete in A1 Handout: Data calculations. It is important that learners are given the opportunity to demonstrate their ability to use the computational skills required, regardless of their mathematical ability.

Enhance your subject knowledge to teach this unit through the following training opportunities:

Online training courses

- [Raspberry Pi Foundation online training courses](#)

Face-to-face courses

- [National Centre for Computing Education face-to-face training courses](#)

Resources are updated regularly — please check that you are using the latest version.

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