Year 6 – Introduction to spreadsheets

Unit introduction

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

It is recommended that you use laptop or desktop computers which have access to a spreadsheet application. The screenshots and videos in this unit are based on Google Slides, however the unit can be adapted for other applications.

Overview of lessons

Lesson	Brief overview	Learning objectives
1 Collecting data	Learners will collect and organise data in a format of their choice. They will then explore how data can be structured in a table. Finally they will input data into a spreadsheet.	To create a data set in a spreadsheet ● I can collect data ● I can suggest how to structure my data ● I can enter data into a spreadsheet

2 Formatting a spreadsheet	Learners will develop their understanding of the structure of a spreadsheet. They will be introduced to cell references, data items and the concept of formatting cells. Learners will see data items formatted in different ways, they will then choose formats for data items before applying formats in their own spreadsheet.	To build a data set in a spreadsheet • I can explain what an item of data is • I can choose an appropriate format for a cell • I can apply an appropriate format to a cell
3 What's the formula?	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 a spreadsheet using cell references and identify that changing inputs will change the output of the calculation.	To explain that formulas can be used to produce calculated data • I can explain which data types can be used in calculations • I can construct a formula in a spreadsheet • I can identify that changing inputs changes outputs
4 Calculate and duplicate	Learners will calculate data using the operations of 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 • I can calculate data 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
5 Event planning	Learners will plan and calculate the cost of an event using a spreadsheet. They will use a predefined list to choose what they would like to include in their event,	To create a spreadsheet to plan an 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 will 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
6 Presenting data	Learners will gain skills to create charts in Google Sheets. They will evaluate the results from their charts to answer questions. Finally, learners will show they understand that there are different software tools available within spreadsheet applications to present data.	To choose suitable ways to present data • I can produce a chart • I can use a chart to show the answer to a question • I can suggest when to use a table or chart

Progression

This unit progresses students' knowledge and understanding of data, and teaches them how to organise and modify data within spreadsheets. Specifically, learners will have experienced data in tables and charts in the Y4 data logging and Y5 branching database units.

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

Formative assessment opportunities are provided throughout each of the lesson plan documents. For summative assessment, please see the MCQ document 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, the 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 the activities in the unit, the calculations can be found in the 'Data calculations' handout. 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 free CPD:
- **Getting started in Year 6 – short course**
- **Introduction to primary computing remote or face to face**

To further enhance your subject knowledge, enrol on the primary certificate. This will support you to develop your knowledge and skills in primary computing and gain the confidence to teach great lessons, all whilst earning a nationally recognised certificate!

Resources are updated regularly — the latest version is available at: ncce.io/tcc.
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