

Computing Scheme of Work Unit 1.8 – Spreadsheets



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Introduction

These spreadsheet lessons have been designed to be used on a range of devices including tablets. We advise when you are dealing with larger spreadsheet data sets then laptops or desktops are the preferred devices.

2Calculate is a simple to use spreadsheet (and more!) for beginners and beyond.

A user guide can be found at [2Calculate User Guide](#).

The following guide contains a Scheme of Work for teaching the use of spreadsheets as part of the Computing curriculum.

The lessons show a progression of knowledge and skills from lesson to lesson and year to year. Children who have not used 2Calculate before will benefit by starting on lessons aimed at younger Children. Teachers who are not familiar with the tools in 2Calculate might find reviewing the lessons for younger Children helpful to build up their own knowledge.

The lessons assume that Children are logged onto Purple Mash with their own individual usernames and passwords so their work will be saved in their own folders automatically and can be easily reviewed and assessed by the class teacher.

If you are currently using a single login per class or group and would like to set up individual logins yourself, then please see our guide to doing so at [Create and Manage Users](#). Alternatively, please contact support at support@2simple.com or 0208 203 1781.

If Children have not used and logged onto Purple Mash before then they will need to spend some time before starting these lessons, learning how to do this. Young Children can be supported by having their printed logon cards (produced using [Create and Manage Users](#)) to hand.

Note: To force links within this document to open in a new tab, right-click on the link then select 'Open link in new tab'.

***Children should be encouraged to open and save 2calculate files throughout this unit.**

Differentiation

If Children are not familiar with computer keyboards and mice and are going to be using 2Calculate on computers rather than tablets, then they would benefit from doing some work to familiarise themselves with the keys such as the arrow keys, enter and space.

The use of spreadsheets has a strong link to mathematics. Some Children might have difficulty with the mathematical concepts in some lessons and might need guidance with this aspect. For example, in lessons where spreadsheets are being used to add up prices; Children who are not familiar with converting pence (45p) to pounds (£0.45) might need this aspect explained in more details; in lessons dealing with percentages and fractions some Children might need extra support for the mathematical concepts.

Where appropriate, guidance has been given on how to simplify tasks within lessons or challenge those who are ready for more stretching tasks.

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Medium-Term Plan

Lesson	Title	Success Criteria
<u>1</u>	Introduction to Spreadsheets	<ul style="list-style-type: none">• Children can navigate around a spreadsheet.• Children can explain what rows and columns are.• Children can save and open sheets.• Children can enter data into cells.
<u>2</u>	Adding Images to a Spreadsheet and Using the Image Toolbox	<ul style="list-style-type: none">• Children can open the Image toolbox and find and add clipart.• Children can use the 'move cell' tool so that images can be dragged around the spreadsheet.• Children can use the 'lock' tool to prevent changes to cells.
<u>3</u>	Using the 'Speak' and 'Count' Tools in 2Calculate to Count Items	<ul style="list-style-type: none">• Children can give images a value that the spreadsheet can use to count them.• Children can add the count tool to count items.• Children can add the speak tool so that the items are counted out loud.• Children can use a spreadsheet to help work out a fair way to share items (Extension)

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Lesson 1 – Introduction to Spreadsheets

Aims

- To understand what a spreadsheet looks like.
- To be able to navigate around a spread sheet and enter data.
- To learn new vocabulary related to spreadsheets.

Success criteria

- Children can navigate around a spreadsheet.
- Children can explain what rows and columns are.
- Children can save and open sheets.
- Children can enter data into cells.

Resources

Unless otherwise stated, all resources can be found on the [unit main page](#). From here, they can be set as 2dos by clicking on the icon. To preview resources linked to here, right-click and 'open in new tab' so you do not navigate away from this page.

- [2Calculate tool in Purple Mash.](#)

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria.
Background – What are Spreadsheets?	Display slide 4 clicking through it to reveal what spreadsheets are. Display slide 5 . Share screenshot of party spreadsheet. Ask the class - What could also be included on a spreadsheet for a party?
Getting to know 2Calculate	Use slide 6 . Launch 2Calculate. Use the prompts on the slide to help children familiarise themselves with 2Calculate when you first open it. (Launcher in top right for 2Calculate).
Getting to know 2Calculate – Key Vocabulary	Use slide 7 in conjunction with 2Calculate to show children the environment and go through key vocabulary. (Click advanced mode on 2Calculate when demonstrating)
Activity 1: Writing Numbers & Name	Use slide 8 . Tell children to launch 2Calculate found in tools section. Children to open new sheet and write numbers to 12 and their name.

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	Children to save file.
Activity 2: Colouring Cells	Use slide 9 to explain how to colour cells in 2Calculate. Click the hints if necessary.
Activity 3: Calculator	Use slide 10 to get the children to make a simple calculator if they have achieved previous activity well.
Activity 4: Extension	Slide 11. Challenge children to add to their 'calculator' file in activity 3 by testing with adding 3 separate numbers. Can they try different operations?
Review Success Criteria	Use slide 12 to evaluate success of meeting success criteria and how well they felt they were able to achieve the 3 activities. A show of hands could be used.



Lesson 2 – Adding Images to a Spreadsheet

Aims

- To add clipart images to a spreadsheet.
- To use the 'move cell' and 'lock' tools.

Success criteria

- Children can open the Image toolbox and find and add clipart.
- Children can use the 'move cell' tool so that images can be dragged around the spreadsheet.
- Children can use the 'lock' tool to prevent changes to cells.

Resources

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- [2Calculate tool in Purple Mash.](#)
- [Lesson2ExampleChallenge file.](#)

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria.
Using Clipart In 2Calculate	Display slide 4 going through process of adding images via image toolbox and replicate this on 2Calculate. (Use launcher). Display slide 5 . Show adding clipart to a cell through 'set image' and 'clipart' button. Use slide 6 . Demonstrate adding a few more images and selecting multiple cells to replicate more than one image in those cells.
Activity 1: Adding Animals To a Zoo	Use slide 7 . Children to add animals to a blank 2Calculate sheet; individual cells and then trying to add one animal to multiple cells through selection.
Activity 2: Moving Animals	Display slide 8 . Children to use the move tool to reorder cell location of animals. Challenge to move multiple at once. *iPad note attached to the presentation. .

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Activity 3: Keep The Animals Safe	<p>Use slide 9. Children to lock cells to stop them being overwritten.</p> <p>Show slide 10. Children add walls/cages to their spreadsheet by using colour cell tool.</p> <p>NB If Children find that their spreadsheets are too small and need more cells click on the + button on the bottom right of the screen to add more cells.</p>
Activity 4: Extension	<p>Use slide 11. Challenge Children to re-order and then lock the coins in a prepared spreadsheet. (Launch in the top right of slide).</p>
Review Success Criteria	<p>Use slide 12 to evaluate success of meeting success criteria and how well they felt they were able to achieve the 3 activities. Children could rate how well they achieved this using a show of hands.</p>



Lesson 3 – Using the ‘Speak’ and ‘Count’ Tools to Count Items

Aim

- To use the ‘speak’ and ‘count’ tools in 2Calculate to count items.

Success criteria

- Children can give images a value that the spreadsheet can use to count them.
- Children can add the count tool to count items.
- Children can add the speak tool so that the items are counted out loud.

Resources

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- Example spreadsheets 1 to 3. These files will be displayed on the whiteboard. [Example 1](#) shows the first stage of making the counting machine. [Example 2](#) shows the finished machine. [Example 3](#) is with speak cells added.
- For the speech tool, it is useful to have headphones so Children can hear the noise from their own computers without being confused by the noise from others’.

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria.
Counting Machine	Use slide 4 to explain what a counting machine is and elicit that spreadsheets such as 2Calculate can do clever things like counting objects for us. Share vocab & Tools.
Activity 1: Making a Counting Machine	Use slide 5 . Display image of counting machine layout. Launch example1 (top right of slide) and share expected sheet for children to create (Adapt if necessary). Use slide 6 to show setting value of food and adding counting tool (Launch example top right of slide).
Activity 2: Testing a Counting Machine	Use slide 7 to elicit what children notice when dragging food to different colours; a ladybird on a red cell will count items in a red box etc.

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Activity 3: Speaking Counting Machine	Use slide 8 to demonstrate adding speak cells to say value of a cell, children test and explore (launch example in top right of slide).
Activity 4: Extension	Use slide 9 to challenge children to answer questions by sorting food.
Review Success Criteria	Use slide 10 to evaluate success of meeting success criteria and how well they felt they were able to achieve the 3 activities.



Assessment Guidance

The unit overview for Year 1 contains details of national curricula mapped to the Purple Mash Units. The following information is an exemplar of what a child at an expected level would be able to demonstrate when completing this unit with additional exemplars to demonstrate how this would vary for a child with emerging or exceeding achievements.

Assessment Guidance	
Emerging	With support, children can save and open sheets (Unit 1.8 Lesson 1), enter a limited quantity of data into cells (Unit 1.8 Lesson 1), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2) and use the image toolbox to add clipart (Unit 1.8 Lesson 2).
Expected	Using the 2Calculate spreadsheet, children can save and open sheets (Unit 1.8 Lesson 1). Most Children will be able to save their 2Calculate files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later. They can enter data into cells (Unit 1.8 Lesson 1), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2) and use the image toolbox to add clipart (Unit 1.8 Lesson 2).
Exceeding	Using the 2Calculate spreadsheet, children can save and open sheets (Unit 1.8 Lesson 1), enter data into cells (Unit 1.8 Lesson 1), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2) and use the image toolbox to add clipart (Unit 1.8 Lesson 2). Children will demonstrate greater depth by explaining the data and sorting it (suggested extension).