



Unit 1.8 – Spreadsheets



Year Group: 1
Number of
Lessons: 3



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Introduction

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 Mange 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'.

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.



Year 1 – Medium Term Plan

Lesson	Aims	Success Criteria
1	Introduction to spreadsheets	<p>Children can navigate around a spreadsheet.</p> <p>Children can explain what rows and columns are.</p> <p>Children can save and open sheets.</p> <p>Children can enter data into cells.</p>
2	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.
3	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 .



Lesson 1 – Introduction to spreadsheets

Aim

- 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

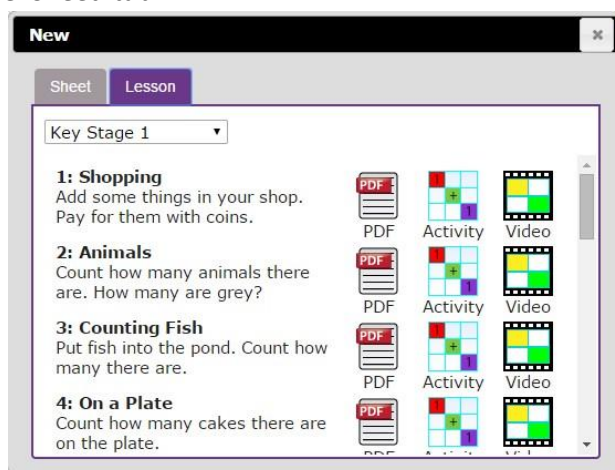
- Children can navigate around a spreadsheet.
- Children can explain what rows and columns are.
- Children can save and open sheets.
- Children can enter data into cells.

Resources

- 2Calculate tool in Purple Mash.

Activities

1. Explain to the children that we are looking at a type of computer program called a spreadsheet today. Spreadsheets are used for organising information. For example, if you were planning a tea party you could enter into the spreadsheet all the things you will need to get for the party and who you were going to invite. Can they think of any other things that could be stored in a spreadsheet for organising a party? (menus, gift list, entertainments).
2. Many people make lists on paper but the advantage of using a spreadsheet is that it can also do calculations for you. Explain what this means e.g. you could enter the cost of the different things that you will need for your party into the spreadsheet and then easily calculate how much money you will need to buy them all.
3. The aim today is to open a spreadsheet program in Purple Mash called 2Calculate and to learn how to enter information and do some simple calculations.
4. Open 2Calculate on the whiteboard. Show that when it starts, there is a smaller screen in the middle with different choices. The labels at the top ('Sheet' and 'Lesson') are called tabs. For today we are going to click on the 'Sheet' tab.

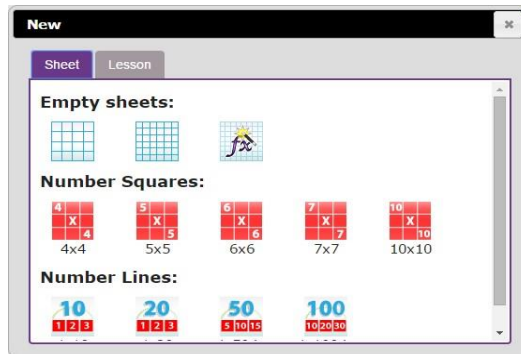


Need more support? [Contact us](#)

Tel: 0208 203 1781 | Email: sow@2simple.com | Twitter: [@2simplesoftware](https://twitter.com/2simplesoftware)

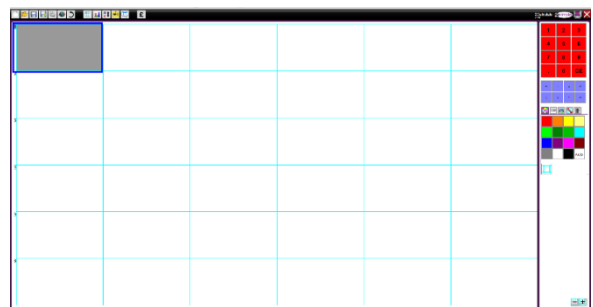


- Click on the tab. This also gives a few choices but for today click on the first one: an empty sheet with big 'rectangles'.



- Spent some time showing children the following things, emphasising the new vocabulary in bold:

- The **rows**; these are numbered 1 to 6
- The **columns**; how many are shown?
- The word '**cells**' is used to describe each box in a spreadsheet.
- Each cell can contain words, numbers, colours, symbols (such as + - =)
- How to move from cell to cell; this can be done by clicking in the cell using the mouse and by using the **arrow keys** on the keyboard. If you press the enter key when in a cell you will move down 1 row.
- How to type into cells; in 2calculate the writing will get smaller automatically to fit in the words that you type.
- How to **delete** the contents of a cell; either by using the **backspace key** or the **Delete key**.



- Children should now spend some time opening 2Calculate on their computers and trying moving and typing. Can they enter their name into a cell?

- Once they have all managed to do this, show the children how to save a file. They will need to give their file a sensible name that they haven't used before, why?



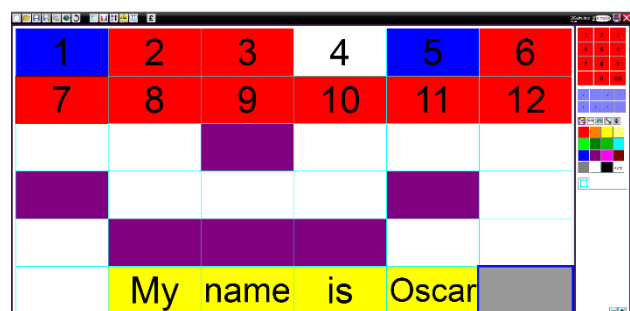
- You might need to suggest a name that children can copy from the board. If they have not used keyboards before, this will take them a while to do.

- Now see if children can close 2Calculate then open it again and open their file. Let them spend some time experimenting with typing and also colouring cells.



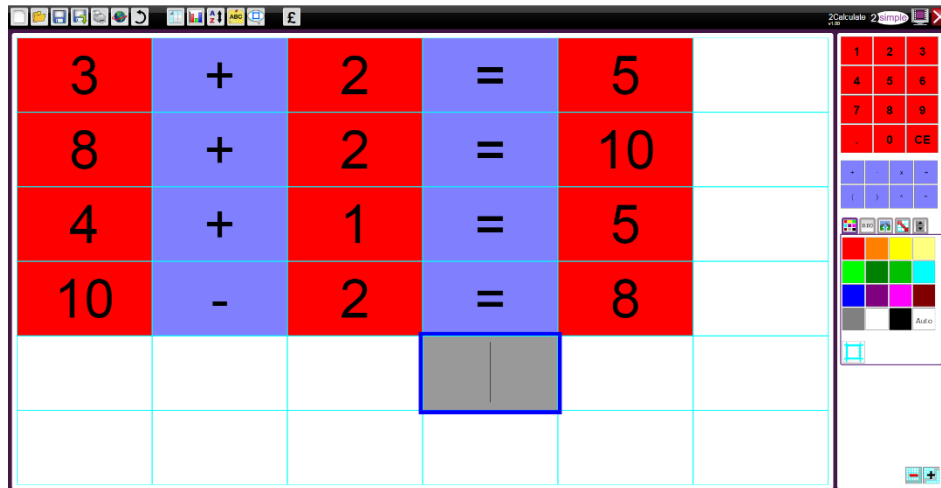
- To colour cells they first click on the cell, then click on the colour they want in the toolbox on the right-hand side.

- If they select more than 1 cell by dragging the mouse over a few cells, then they can colour all of these cells at once.





13. If the children are getting on well with this, show them how to put a simple sum into the cells and let 2Calculate work out the answer. First enter a number then go into the next cell to the right and click the '+' sign button on the right hand side, then move to the next cell and enter another number. Now put the '=' sign in the next cell and see how 2Calculate works out the answer.
14. Children can spend time experimenting with this and performing calculations.





Lesson 2 – Adding images to a spreadsheet

Aim

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.

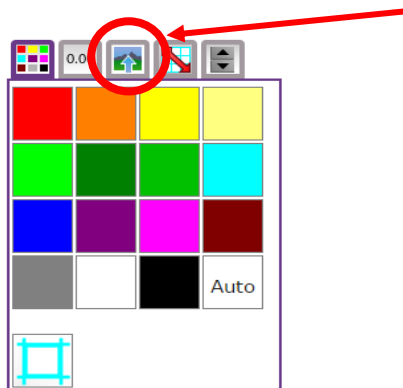
Children can use the 'lock' tool to prevent changes to cells.

Resources

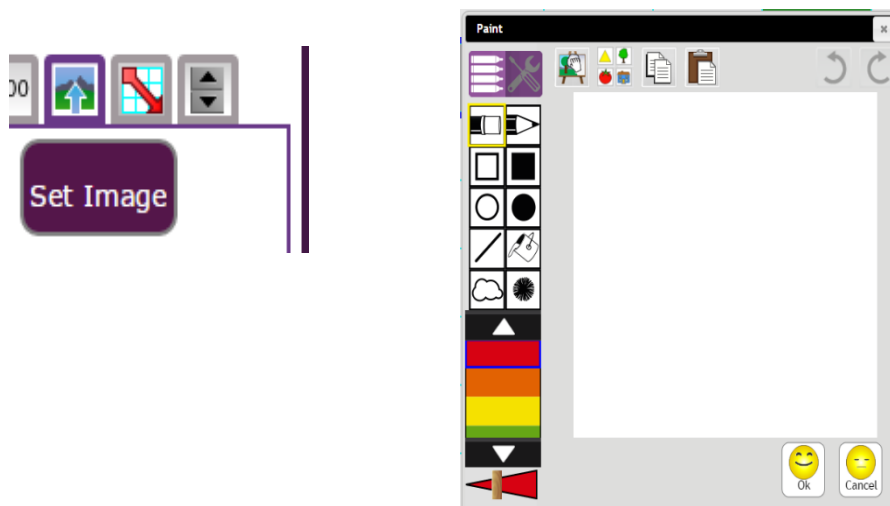
- 2Calculate tool in Purple Mash.

Activities


1. Remind children how to open 2Calculate and open a blank spreadsheet.
2. Show children where the Image toolbox is. They need to click on the images tab on the right-hand side:

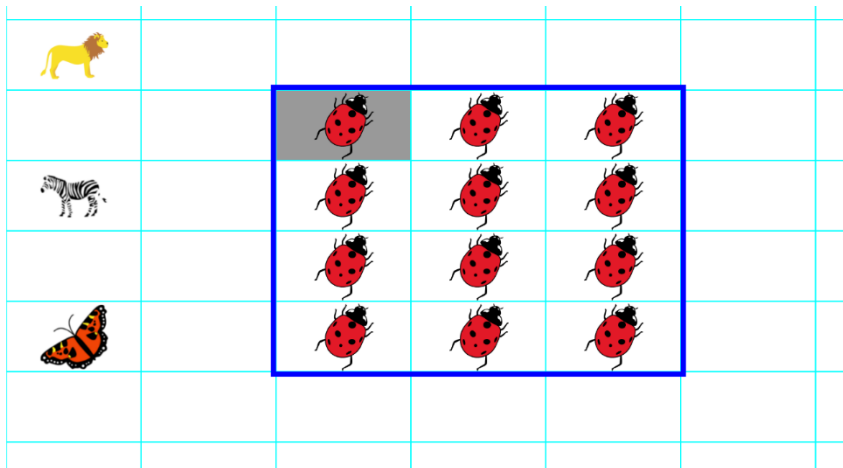


3. You will see a selection of coin images which will be useful later but for now, click on the 'Set Image' button to open the following screen.

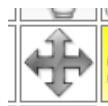


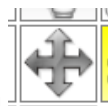


4. Today we are going to be using clipart. Click on the clipart button  to open the clipart picker. Show the children the different choices of topics and go to the animals option (children could choose other items if they wish).
5. Select an animal and click on the OK button to add it to the spreadsheet. Add 2 further animals in the same way in different cells. You could show children that if they select more than one cell when adding images then they will get multiple copies of the same image.



6. Show the children that at the moment you can't drag the animals around into different cells (cages?).
7. Click on one of the animals then click on the Controls toolbox



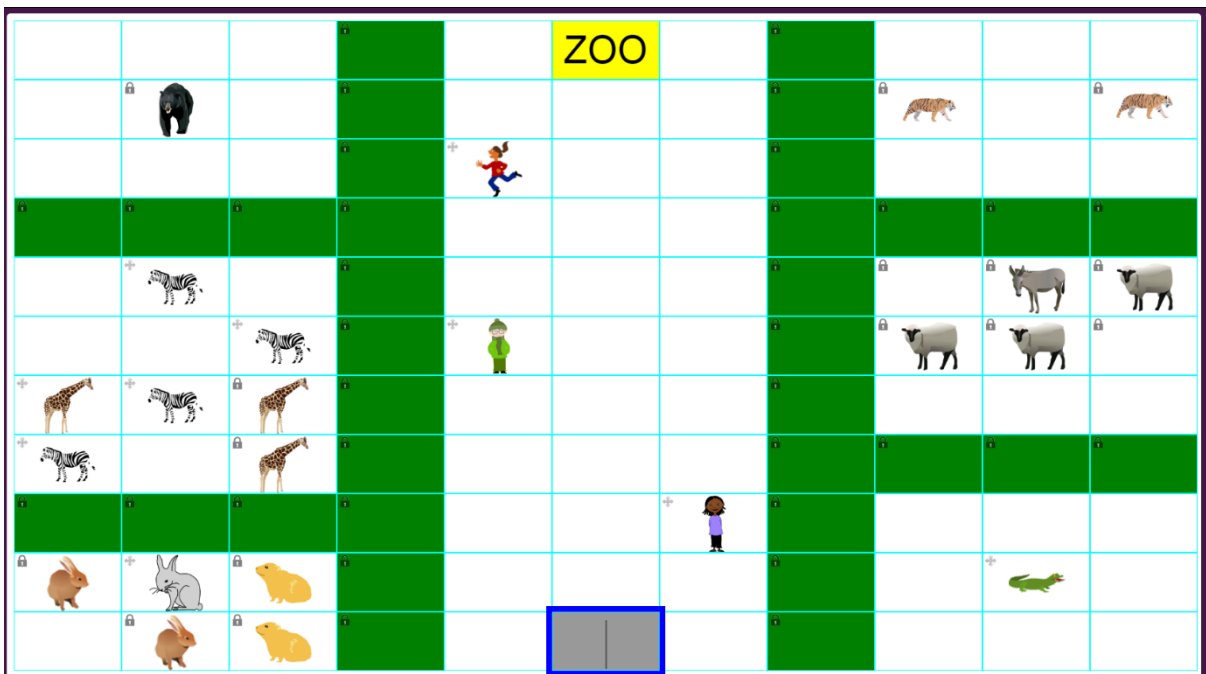
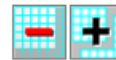
8. Now click on the 'move cell' tool . A little symbol will appear in the top right-hand corner of the image to show that it is now moveable. Try dragging it into a different cell.
9. This can also be done with several images selected at once to save doing it many times.
10. Children could spend some time trying to replicate this on their own spreadsheets and then save their work.
11. Once they have had some time to practice, return together to look at locking cells.



12. Unfortunately, all of the animals being able to move around the spreadsheet is quite dangerous for the smaller animals; show the children what happens to the ladybirds when the lion is dragged onto them! So we are going to lock the ladybird cells so they can't be eaten.



13. To do this click on the cell that you want to lock, then click on the lock cell tool
14. Explain to children that this tool can be useful for other things too; such as when you have numbers or cells that you don't want to be accidentally changed.
15. Give children the opportunity to experiment with the lock and move tools. They could try making a 'zoo' by colouring cells to make walls and locking them so they can't be changed and then locking or unlocking and moving animals into their cages/cells.
16. **NB** If children find that their spreadsheets are too small and need more cells click on the + in the button on the bottom right of the screen to add more cells.





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.
- Children can use a spreadsheet to help work out a fair way to share items .

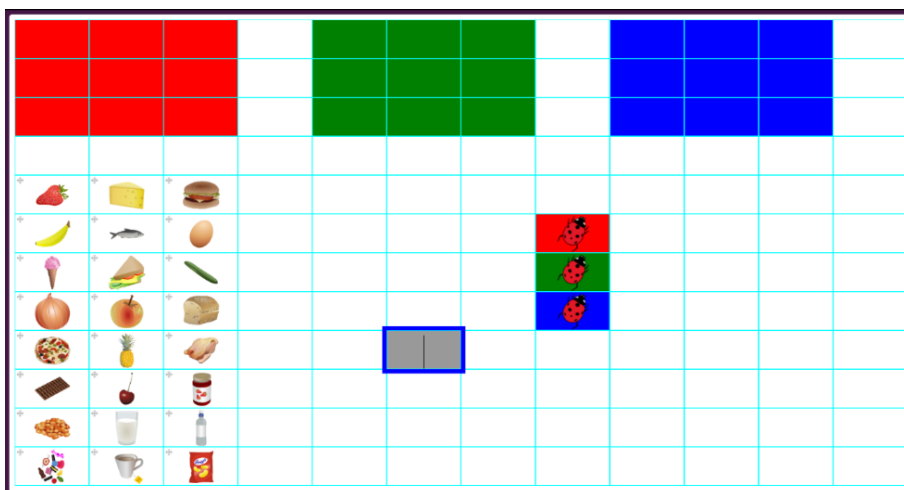
Resources

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 don’t navigate away from this page.

- 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 an extension exercise.
- 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

- Remind children how to open 2Calculate and open a blank spreadsheet.
- Today you are going to use 2Calculate to turn a spreadsheet into a counting machine.
- The first stage of this is to create a spreadsheet like the example below (see following explanation below the image):

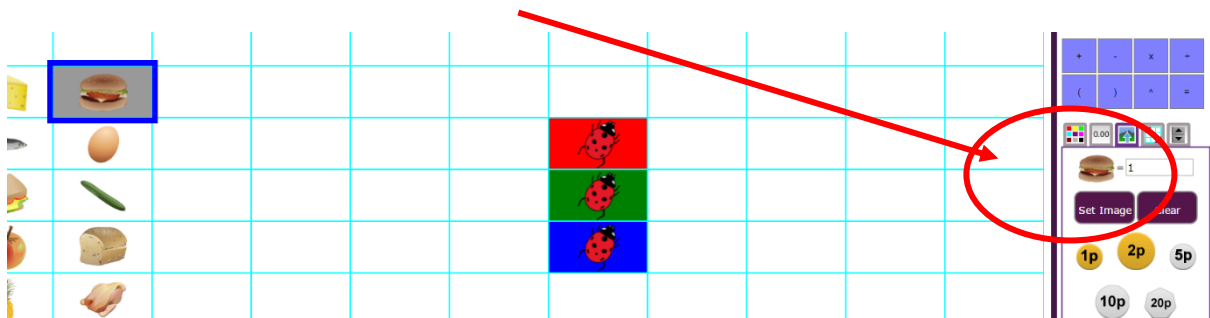



- NB** If children find that their spreadsheets are too small and need more cells click on the + in the button on the bottom right of the screen to add more cells.






5. Remind children how to colour several cells at once.
6. See if they can remember how to add images from last lesson; this lesson we are adding food images.
7. See if they can remember how to make all of the images moveable at once (by selecting them all and clicking the 'move' tool in the controls toolbox).
8. The ladybirds are going to be doing the counting; they could choose any images for this from the clipart e.g. dinosaurs or other animals. It's the colour of the cells that matters; They need to match the areas above.
9. Display the example 1 spreadsheet on the whiteboard and give children time to recreate it. The example contains 24 food items but if children are taking a long time to make their spreadsheet, suggest that they include less food items (a multiple of 3 is useful though) e.g. 3, 6, 9, 12 etc items.
10. Once the children have created and saved their spreadsheet come back together to explain how to turn this into a counting machine.
11. Now the computer needs to know that each image is 1 item so it adds 1 each time. To do this, click on an image. In the image toolbox you will see a picture of the item followed by and = sign. Type '1' in the box next to the = sign for each image **including the ladybirds**.



12. **NB** to do this in future once children are familiar with what a counting machine does, it is possible to enter a 1 into all the cells into which an image is to be placed then add the image and the value of 1 will remain.
13. Some children might notice that some of the food pictures have more than 1 item on them so shouldn't really count as 1; this is really clever, they are correct and strictly speaking only food with 1 item should be included! They could experiment by setting the value to the actual number of items if they wish.
14. Now click on the cell to the right of one of the ladybirds, open the controls toolbox and click a 'How many'  control. Repeat this for the 2 other ladybirds. The example 2 spreadsheet shows this tool as it should look.
15. Now the ladybird on the red cell will count all the items in the red box, the blue will count blue and the same for green. Try this out by dragging food items into the boxes.
16. We can also make the ladybirds say the value out loud when an item is added or taken away. To do

this, select the cells where the answers for the count are and click on the 'speak cell' control. 



17. Can children add the controls to their own spreadsheets to make a counting machine?
18. The children can use their counting machines to answer questions such as:
19. Each box is going to be given to a different person, can you share the items out equally between the 3 boxes to find out how many items each person will get?
20. Can you put all the fruit in the red box, the vegetables in the green box and tell me how many there are?
21. Put the foods that have lots of sugar in them in one box; how many foods did you have?
22. Put the foods that you like in one box, those you don't mind in another and those you really don't like in the third box.
23. The children could make counting machines with more 'boxes' to share items into (Example file 3 shows this). Just add some different coloured cells to the spreadsheet and a corresponding ladybird and count control (**make sure you set the ladybird's value to 1**).



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. Point 8), enter a limited quantity of data into cells (Unit 1.8 Lesson 1. Point 9), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2. Point 8) and use the image toolbox to add clipart (Unit 1.8 Lesson 2. Point 2).
Expected	Using the 2Calculate spreadsheet, children can save and open sheets (Unit 1.8 Lesson 1. Point 8). 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. Point 9), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2. Point 8) and use the image toolbox to add clipart (Unit 1.8 Lesson 2. Point 2).
Exceeding	Using the 2Calculate spreadsheet, children can save and open sheets (Unit 1.8 Lesson 1. Point 8), enter data into cells (Unit 1.8 Lesson 1. Point 9), manipulate data using the 'move cell' tool (Unit 1.8 Lesson 2. Point 8) and use the image toolbox to add clipart (Unit 1.8 Lesson 2. Point 2). Children will demonstrate greater depth by explaining the data and summarising this into simple 'more than and less than' statements (suggested extension).