



# Computing Medium Term Plan- Spring Term 2 Y1



## Spread Sheets

### Technology Outside of School

- Unit Outcome - to create and understand simple spread sheets.

| Date     | Objective (s)  | Task/activity   | Resources                      | Key Vocabulary   | Lesson Outcome                        |
|----------|--|---|--------------------------------|--|---------------------------------------|
| Lesson 1 | <p><u>NC objective:</u><br/>To use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p><u>Lesson objectives:</u><br/>I can navigate around a spreadsheet.<br/>I can explain what rows and columns are.<br/>I can save and open sheets.<br/>I can enter data into cells.</p> | <p><u>Main Teaching</u><br/>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). 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. 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.</p> | 2Calculate tool in Purple Mash | <p>Arrow keys - On a standard keyboard these can be used to move around the cells of a spreadsheet.<br/>Backspace key - Use this key to delete the character before the current cursor position.<br/>Cursor - An</p> | To understand what a spread sheet is. |



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|  |  | <p>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. Click on the tab. This also gives a few choices but for today click on the first one: an empty sheet with big 'rectangles'. Spend some time showing children the following things, emphasising the new vocabulary in bold:</p> <ul style="list-style-type: none"><li>• The rows; these are numbered 1 to 6</li><li>• The columns; how many are shown?</li><li>• The word 'cells' is used to describe each box in a spreadsheet.</li><li>• Each cell can contain words, numbers, colours, symbols (such as + - =)</li><li>• 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.</li><li>• How to type into cells; in 2calculate the writing will get smaller automatically to fit in the words that you type.</li><li>• How to delete the contents of a cell; either by using the backspace key or the Delete key.</li></ul> <p>Children should now spend some</p> |  | <p>indicator on a computer screen identifying the point that will be affected by input from the user. Often a blinking vertical line. Columns - Vertical reference points for the cells in a spreadsheet. Cells - An individual section of a</p> |  |
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|  |  | <p>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? 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.</p> <p><u>Differentiated Activities</u><br/>     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.</p> |  | <p>spreadsheet grid. It contains data or calculations. Clipart - Simple pictures and symbols available for computer users to add to documents. Count Tool - In 2Calculate, this counts the number of cells with a value that matches the</p> |  |
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|  |  | <p>Children can spend time experimenting with this and performing calculations</p> <p><u>Challenges</u></p> |  | <p>value of the cell to the left of the tool.</p> <p>Delete key - Use this key to remove the contents of a cell.</p> <p>Image Toolbox - Use this to insert images into cells.</p> <p>Lock tool - This tool prevents cell values being changed.</p> <p>Move cell tool - This tool</p> |  |
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|  |  |  |  | <p>makes a cell's contents moveable by drag-and-drop methods.</p> <p>Rows - Vertical reference points for the cells in a spreadsheet.</p> <p>Speak Tool - This tool will speak the contents of a cell containing a number each time the value</p> |  |
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|          |   |  |                                | changes.<br>Spreadsheet<br>- A computer program that represents information in a grid of rows and columns. |   |
| Lesson 2 | <u>NC objective:</u><br>To use technology purposefully to create, organise, store, manipulate and retrieve digital content<br><br><u>Lesson objectives:</u> | <u>Main Teaching</u><br>Remind children how to open 2Calculate and open a blank spreadsheet. Show children where the Image toolbox is. They need to click on the images tab on the right-hand side: click on the 'Set Image' button to open the following screen 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 (or related to | 2Calculate tool in Purple Mash |  | To use a variety of spread sheet tools. |



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|  | <p>I can add clipart images to a spreadsheet.<br/>I can use the 'move cell' and 'lock' tools.</p> | <p>topic work). 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. Show the children that at the moment you can't drag the animals around into different cells (cages?). Click on one of the animals then click on the Controls toolbox. 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. This can also be done with several images selected at once to save doing it many times. Children could spend some time trying to replicate this on their own spreadsheets and then save their work. Once they have had some time to practice, return together to look at locking cells. 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</p> |  |  |  |
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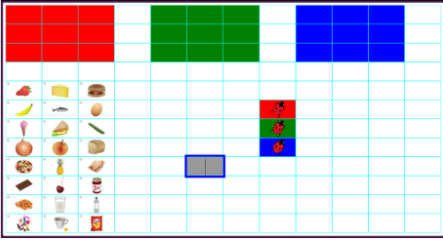
|          |   |  |   |  |                         |
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|          |   | <p>we are going to lock the ladybird cells so they can't be eaten. To do this click on the cell that you want to lock, then click on the lock cell tool. Explain to children that this tool can be useful for other things too; such as when you have numbers or cells that you don't want to be accidently changed</p> <p><u>Differentiated Activities.</u></p> <p>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. 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.</p> <p><u>Challenges</u></p> |   |  |                         |
| Lesson 3 | <p><u>NC objective:</u><br/>To use technology purposefully to</p> | <p><u>Main Teaching</u><br/>Remind children how to open 2Calculate and open a blank spreadsheet. Today you are going to use</p>  | headphones<br>example spread sheets 1-3 |  | To create simple spread |



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|  | <p>create, organise, store, manipulate and retrieve digital content</p> <p><u>Lesson objectives:</u><br/>         I can give images a value that the spreadsheet can use to count them.<br/>         I can add the count tool to count items.<br/>         I can add the speak tool so that the items are counted out loud.<br/>         I can use a spreadsheet</p> | <p>2Calculate to turn a spreadsheet into a counting machine. The first stage of this is to create a spreadsheet like the example below</p>  <p>Remind children how to colour several cells at once. See if they can remember how to add images from last lesson; this lesson we are adding food images. 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). 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. 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</p> |  |  | <p>sheets using a computer. To help work out a fair way to share items.</p> |
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|  |  | <p>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. Once the children have created and saved their spreadsheet come back together to explain how to turn this into a counting machine. 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. 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. 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. Now click on the cell to the right of one of the ladybirds, open</p> |  |  |  |
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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. 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. 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.

#### Differentiated Activities

Can children add the controls to their own spreadsheets to make a counting machine? The children can use their counting machines to answer questions such as:  
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?  
Can you put all the fruit in the red box, the vegetables in the green box and tell me how many there are?  
Put the foods that have lots of sugar in them in one



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|          |   | <p>box; how many foods did you have?. 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. 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).</p> <p><u>Challenges</u></p>                                   |        |            |  |
| Lesson 4 | <p><u>NC objective:</u><br/>To recognise common uses of information technology beyond school</p> <p><u>Lesson objectives:</u><br/>I understand what is meant by</p> | <p><u>Main Teaching</u><br/>For the lesson, you will need to define to the children what is meant by the term 'technology'. According to the Oxford English Dictionary, technology is 'the application of scientific knowledge for practical purposes, especially in industry'.<br/>. Ask them what is meant by the term 'technology'.<br/>Explain to them what it is. Look around the classroom.<br/>What examples of technology can they see? Examples may include: • calculator • computer •</p> | camera | technology | To recognise common uses of information technology beyond school |



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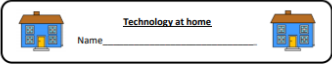
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|          | <p>'technology'.<br/>I have considered types of technology used in school and out of school.</p> | <p>whiteboard/screen • telephone. In small groups, take the children into the local community and see what examples of technology they can identify. As the children notice examples, take pictures. As an extension, the children could then continue the activity at home and draw pictures of where they have found technology.</p> <p><u>Differentiated Activities</u><br/>technology walk</p> <p><small>Lesson 2 - Worksheet 1 - Technology Outside School</small></p> <p>Name _____</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 100px; height: 60px;"></div> <div style="border: 1px solid black; width: 100px; height: 60px;"></div> </div> <p style="text-align: center; font-size: small;">I went for a walk to look at how technology is used outside school. Here are four things I saw:</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 100px; height: 60px;"></div> <div style="border: 1px solid black; width: 100px; height: 60px;"></div> </div> <p><u>Challenges</u></p> <p>.</p> |                           |  |                          |
| Lesson 5 | <p><u>NC objective:</u><br/>To recognise</p>   | <p><u>Main Teaching</u><br/>Share the learning objectives and success criteria.</p>  | slide show of photos from |  | To recognise common uses |

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|  | <p>common uses of information technology beyond school</p> <p><u>Lesson objectives:</u><br/>I can record examples of technology outside school</p> | <p>Recap the learning from the last lesson. If appropriate, ask the children to show their homework. This could be put on display prior to the lesson. Show the slide show of pictures; either the one created using pictures taken by the children on their tour, or the pre-made one. Ask the children what uses of technology they can see.</p> <p><u>Differentiated Activities</u><br/>The children complete Lesson 2 - Worksheet 1 - Technology outside school.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;"> Technology at home</p> <p style="text-align: center;">Name: _____</p> <p style="text-align: center; font-size: small;">Look around your home and draw four ways in which technology is used.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 80px; height: 80px; margin: 5px;"></div> <div style="border: 1px solid black; width: 80px; height: 80px; margin: 5px;"></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; width: 80px; height: 80px;"></div> <div style="border: 1px solid black; width: 80px; height: 80px;"></div> </div> </div> <p><u>Challenges</u></p> | <p>previous lesson</p> |  | <p>of information technology beyond school</p> |
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