



Singleton Church of England Primary School

Progression of Skills and Knowledge

Computing - Y1



	Year 1 – Unit 1.1 Online Safety	Year 1 – Unit 1.2 Grouping & Sorting	Year 1 – Unit 1.3 Pictograms	Year 1 – Unit 1.4 Lego Builders
KEY VOCABULARY	Alert, avatar, button, device, file name, icon, log in, log out, menu, my work area, notification, private, password	Criteria, groups, sort	Collect, compare, data, pictogram, record, title	Algorithm, code, computer, debugging, instructions, program
SUBSTANTIVE KNOWLEDGE	<ul style="list-style-type: none"> Knows how to log in safely Knows how to navigate to a document area where saved work by child can be found Knows how to use search to locate applications or resources on a platform such as Purple Mash Knows how to enhance work by adding multimodal items such as text and images Knows how to open, save and print work Knows the importance of logging out of an account. 	<ul style="list-style-type: none"> Knows how to sort items using a range of criteria Knows how to use software for grouping items such as tools within Purple Mash. 	<ul style="list-style-type: none"> Knows that data can be represented in a picture format e.g. pictogram Knows how to contribute to a class pictogram Knows how to use a software such as 2Count to record results of an experiment into a pictogram format 	<ul style="list-style-type: none"> Knows how to compare the effects of adhering strictly to instructions when completing tasks without complete instructions. Knows how to follow and create simple instructions on the computer. Knows that the order of instructions affects the end result for a given instructional task.
MAKING CONNECTIONS Key knowledge / key questions	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To log in safely. To learn how to find saved work in the Online Work area and find teacher comments. To learn how to search Purple Mash to find resources. To become familiar with the icons and types of resources available in the Topics section. To start to add pictures and text to work. To explore the Tools and Games section of Purple Mash. To learn how to open, save and print. To understand the importance of logging out. <p><u>Key Questions</u></p> <p>What is a password and why should we keep them safe? A password is a secret word or phrase that allows a user to access a website. Passwords are like toothbrushes in that they should not be shared with anyone else.</p> <p>What is a digital avatar? In Purple Mash, an avatar is a picture you create in the software to represent you. It is safer to use an avatar on the Internet than have a picture of yourself.</p> <p>Where is my work stored on Purple Mash? In Purple Mash, most of the work you save will be saved in the My Work section of Purple Mash. The only person that can see this work is the teacher and you.</p>	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To sort items using a range of criteria. To sort items on the computer using the 'Grouping' activities in Purple Mash. <p><u>Key Questions</u></p> <p>In what ways can we sort objects? We can sort objects by different criteria. These include the size of the objects, the colour of the objects or the number of sides the object has. The criteria will depend on the type of objects being sorted.</p> <p>Future Links – Year 2 Unit 1.3 Pictograms</p> <ul style="list-style-type: none"> Presenting data in a picture format. 	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To understand that data can be represented in picture format. To contribute to a class pictogram. To use a pictogram to record the results of an experiment. <p><u>Key Questions/Images</u></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Open, Close and Share </div> <div style="text-align: center;">  Add or delete columns </div> <div style="text-align: center;">  Frequency </div> <div style="text-align: center;">  Add or delete objects from the Pictogram </div> </div> <p>Prior Links Unit 1.2 Grouping and Sorting</p> <ul style="list-style-type: none"> Sorting data according to criteria <p>Future Links – Year 2 Unit 2.3 Spreadsheets</p> <ul style="list-style-type: none"> Use of 2Calculate to collect data and produce a graph 	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. To follow and create simple instructions on the computer. To consider how the order of instructions affects the result. <p><u>Key Questions</u></p> <p>What is an instruction? An instruction takes you through something step by step so that you can successfully complete a task.</p> <p>Why do we need to debug code? When you write code, it won't always work correctly first time. When you search for the errors and correct them, this is known as debugging.</p> <p>Future Links – Year 2 Unit 1.7 Coding</p> <ul style="list-style-type: none"> Concept of computers following given instructions • Planning using an algorithm design Unit 1.5 Maze Explorers Concept of computers following given instructions • Program logic and structure.
Key Assessment Opportunity	<p>Task: Children should use Purple Mash to search 'hedgehog', complete the art task and save the work to their folder.</p> <ul style="list-style-type: none"> Children take ownership of their work and will be able to save their work, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later. Most children will be able to add their name to their picture from lesson 1. 	<p>Task: Create a grouping activity for their peers using 2Do it yourself.</p> <ul style="list-style-type: none"> Children can physically sort, collate, edit, present, search through, re-order and restructure items using a range of given criteria Using Purple Mash, children can sort items into three clearly defined groups using given criteria 	<p>Task: Roll a dice 20 times and record the number it lands on. Children then use 2count to create a pictogram of their data.</p> <ul style="list-style-type: none"> Children can collate and organise class data into a physical pictogram and a virtual pictogram. Children can then interrogate this data to answer given questions. Children can create, store, retrieve and share their own pictograms. Most children will be able to save 	<p>Task: Make an algorithm on how to make a bowl of cereal.</p> <ul style="list-style-type: none"> I can explain that an algorithm is a set of instructions. I know that a computer program turns an algorithm into code that the computer can understand. I can work out what is wrong when the steps are out of order in instructions.

Year 1 Knowledge Overview

		<ul style="list-style-type: none"> • Most children can sort physical objects using a range of criteria e.g., shape: Number of sides, colour, equal length sides etc. They can apply this skill within Purple Mash using the range of sorting activities with more than one criterion 	<p>their pictograms, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later.</p> <ul style="list-style-type: none"> • Children can represent simple collected data in an appropriate pictogram by using 2Count. Most children can collate data from rolling a die and record the results within 2Count. They demonstrate that they can use 2Count to group collated data into pictorial representations 	
<p>Key Skills</p>	<ul style="list-style-type: none"> • I can keep my login information safe. • I can save my work in a safe place such as 'My Work' folder. 	<ul style="list-style-type: none"> • I can sort sound, pictures and text. • I can name my work. • I can save my work. • I can find my work. 	<ul style="list-style-type: none"> • I can change content on a file such as text, sound and images. • I can name my work. • I can save my work. • I can find my work. 	<ul style="list-style-type: none"> • I understand how the order in which the steps of a recipe are presented affects the outcome. • I can organise instructions for a simple recipe. • I know that correcting errors in an algorithm or program is called 'debugging'.



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	Year 1 – Unit 1.5 Maze Explorers	Year 1 – Unit 1.6 Animated story books	Year 1 – Unit 1.7 Coding	Year 1 – Unit 1.8 Spreadsheets
KEY VOCABULARY	Algorithm, challenge, command, direction, instruction, left, right, route, undo, unit	Animation, background, clip art, gallery, e-book, edit, font, sound, sound effect, text	Action, code, event, algorithm, command, execute, background, debug, input, instructions, properties, scene, object, run, sound, output, scale, when clicked	Button, calculations, cell, clip-art, column, count, data, delete, image, lock cell, move cell, row, speak tool, spreadsheet, value
SUBSTANTIVE KNOWLEDGE	<ul style="list-style-type: none"> Knows the functionality of the direction keys in 2GO Knows how to create and debug a set of simple instructions (algorithm) Knows how to use the additional direction keys within 2Go as part of an algorithm Knows how to change and extend the algorithm list in 2Go. 	<ul style="list-style-type: none"> Knows what e-books are Knows of software such as 2Create a Story that allows users to create interactive stories Knows how to add animation to an interactive story Knows how to add sound, including voice recordings and music to a story they have created using software Beginning to know how to work on more complex digital stories, including adding backgrounds, copying and pasted pages Knows how to share digital stories with others such as using Digital Display Boards. 	<ul style="list-style-type: none"> Knows what instructions are and can predict what might happen when they are followed Knows how to plan and make a simple computer program e.g. fish moves right, crab moves up Knows what objects, actions and backgrounds are within a coding environment Knows what an event is and knows how to use an event to control an object Beginning to know how code executes when a program is run. 	<ul style="list-style-type: none"> Knows what a spreadsheet program environment looks like including cells, rows and columns. Knows basically what a spreadsheet program can help do Knows how to enter data into spreadsheet cells Knows how to add images to cells Knows how to use some tools within spreadsheets e.g. with 2Calculate can use lock cell, move cell, speak and count.
MAKING CONNECTIONS Key knowledge / key questions	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To understand the functionality of the direction keys. To understand how to create and debug a set of instructions (algorithm). To use the additional direction keys as part of an algorithm. To understand how to change and extend the algorithm list. To create a longer algorithm for an activity. To set challenges for peers. To access peer challenges set by the teacher as 2Dos. <p><u>Key Questions</u></p> <p>What is 2Go? 2Go is a program that allows you to move an object around the screen using either the arrows or by creating a simple sequence of instructions.</p> <p>How do I undo a mistake on 2Go? In 2Go, you can either click on the undo button to go back one step or the rewind button to go back to the start of the challenge.</p> <p><u>Prior Links year 1</u></p> <p>Unit 1.4 Lego Builders</p> <ul style="list-style-type: none"> Logical decision making • Sequencing instructions • Following instructions <p><u>Future Links Year 2</u></p> <p>Unit 2.1 Coding</p> <ul style="list-style-type: none"> Familiarity with a code environment. • Logical planning of sequences. • Debugging skills <p>Unit 2.4 Questioning</p> <ul style="list-style-type: none"> Logical decision processing. • Forward planning to achieve a solution 	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To introduce e-books and the 2Create a Story tool. To add animation to a story. To add sound to a story, including voice recording and music the children have composed. To work on a more complex story, including adding backgrounds and copying and pasting pages. To share e-books on a class display board. <p><u>Key Questions</u></p> <p>What is 2Create a Story? With 2Create a Story, you can create e-books including animated pages, sounds, narration and music.</p> <p>What is an animated story? An animated story is a story where the images in the foreground can move in a variety of ways.</p> <p>How can I make my story better? As well as adding animation to the story, it can be improved by adding sounds or sound effects to the different pages.</p> <p><u>Prior Links Year 1</u></p> <p>Unit 1.1 Exploring Purple Mash</p> <ul style="list-style-type: none"> General use of Purple Mash • Design: avatar creation • Paint Projects: use of the simple paint tools <p><u>Future Links Year 2</u></p> <p>Unit 2.2 Creating pictures</p> <ul style="list-style-type: none"> 2Paint a Picture: art effects, collage effects <p>Unit 2.7 Making music</p> <ul style="list-style-type: none"> Digitally creating music and sound effects <p>Unit 2.8 Presenting ideas</p> <ul style="list-style-type: none"> Exploring how stories can be presented in different ways 	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To understand what instructions are and predict what might happen when they are followed. To use code to make a computer program. To understand what object and actions are. To understand what an event is. To use an event to control an object. To begin to understand how code executes when a program is run. To understand what backgrounds and objects are. To plan and make a computer program. <p><u>Key Questions</u></p> <p>What is coding? Writing instructions in a way that a computer can interpret them to make a program.</p> <p>Why is it useful to design before coding? It helps you to get a clear idea of what you want your program to do. You can use the design to decide which objects you need to add, what to call them and what actions they should perform.</p> <p>How can you make characters move in a 2Code program? In design mode, add a character. Change properties such as the name and scale. Exit from design mode and drag your character's code block into the coding window. From the properties menu, select right, left, up or down.</p> <p><u>Prior Links Year 1</u></p> <p>Unit 1.4 Lego Builders</p> <ul style="list-style-type: none"> Algorithms • Logical decision making • Sequencing instructions • Following instructions <p>Unit 1.5 Maze Explorers</p> <ul style="list-style-type: none"> Coding a 'turtle' • Creating programs using sequencing and repeat. • Visual use of the Logo programming language. • Program logic and structure. <p><u>Future Links Year 2</u></p> <p>Unit 2.1 Coding</p> <ul style="list-style-type: none"> Algorithms • Collision detection • Timers • Object types • Buttons • Debugging <p>Unit 2.4 Questioning</p> <ul style="list-style-type: none"> Logical decision processing • Forward planning to achieve a solution 	<p><u>Key Learning</u></p> <ul style="list-style-type: none"> To know what a spreadsheet program looks like. To locate 2Calculate in Purple Mash. To enter data into spreadsheet cells. To use 2Calculate image tools to add clipart to cells. To use 2Calculate control tools: lock, move cell, speak and count. <p><u>Key Questions</u></p> <p>What does a spreadsheet look like? It has a grid of cells. These are in rows and columns. The cells can be coloured, and you can type into them. You can use the toolbox to do different things with the data in the cells.</p> <p>How could you use a spreadsheet to add up values? You can enter numbers and operators such as +, -, x in the cells. Entering an equals sign in the correct cell will perform calculations.</p> <p>How could you use the count and speak tools? The count tool will count the number of cells containing the same value or colour as it. The speak tool will say this number each time you click on the cell or the number changes.</p> <p><u>Prior Links</u></p> <p>Unit 1.3 Pictograms</p> <ul style="list-style-type: none"> What is data? • Representing data <p><u>Future Learning</u></p> <p>Unit 2.3 Spreadsheets</p> <ul style="list-style-type: none"> Copying and pasting • Totalling tools • Addition • Table layout • Block graph <p>Unit 2.4 Questioning</p> <ul style="list-style-type: none"> Ways to represent data • Pictograms (2Count) • Binary trees (2Question) • Databases (2Investigate)

Year 1 Knowledge Overview

Key Assessment Opportunity	Task: Write a set of instructions (algorithm) to move a beetbot from one place to another.	Task: Create a short e-story linked to Literacy topic.	Task: Use 2code to make a scene for a program.	Task: Create a set of questions based on a given spreadsheet for your friend to answer.
Key Skills	<ul style="list-style-type: none"> • I can explain that an algorithm is a set of instructions. • I can work out what is wrong when the steps are out of order in instructions. • I can make good guesses of what is going to happen in a program. For example, where the turtle might go. 	<ul style="list-style-type: none"> • I can add sound, pictures and text to a program such as 2Create a Story. • I can change content on a file such as text, sound and images. • I can name my work. • I can save my work. • I can find my work. 	<ul style="list-style-type: none"> • I know that a computer program turns an algorithm into code that the computer can understand. • I can say that if something does not work how it should it is because my code is incorrect. • I can try and fix my code if it isn't working properly. • I can make good guesses of what is going to happen in a program. For example, where the turtle might go. • I can change content on a file such as text, sound and images. • I can name my work. • I can save my work. • I can find my work. 	<ul style="list-style-type: none"> • I can change content on a file such as text, sound and images. • I can name my work. • I can save my work. • I can find my work.