



Portfields Primary School Medium Term Plan



Year Group – 1





Subject - **Computing**

Strand – **Computer science** Topic – **Programming animations**

Term - **Summer 1**

National Curriculum	Key Questions		Substantive Knowledge	Key Vocabulary	Real-Life Links
<p>Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions</p> <p>Create and debug simple programs</p> <p>Use logical reasoning to predict the behaviour of simple programs</p>	<p>Have you seen or used ScratchJr before?</p> <p>Can you make the cat move to the right?</p> <p>Can you make your sprite move to the left?</p> <p>Can you make the cat move up?</p> <p>Can you make the cat move down?</p> <p>Can you find things that are the same about Bee-Bots and ScratchJr?</p> <p>Can you add the classroom background?</p> <p>Can you add a background?</p> <p>Can you add a program to each sprite?</p>		<p>Understands how to choose a command for a given purpose.</p> <p>Understands that a series of commands can be joined together.</p> <p>Understand the effect of changing a value.</p> <p>Understand that each sprite has its own instructions.</p> <p>Understand how to use algorithm to create a program from a project that they have designed.</p>	<p>delete</p> <p>reset</p> <p>background</p> <p>predict</p> <p>effect</p> <p>change</p> <p>instructions</p> <p>compare</p> <p>area</p> <p>joining</p> <p>start</p> <p>run</p> <p>value</p> <p>design</p>	<p>Independent editing of work.</p>
	<p style="text-align: center;">Technical Questions</p>				
	<p>What has happened to my cat? Discuss that the cat is now on its side as if it is going to sleep.</p> <p>Which block do you think was used to do this? Turn right block.</p> <p>What are the differences between ScratchJr and Bee-Bots?</p> <ul style="list-style-type: none"> • ScratchJr works on-screen • The Bee-Bot moves physically on the floor/table • You press Go to run a program on the Bee-Bot • The Bee-Bot makes a noise (ScratchJr can make noises, but learners may not be aware of this yet) <p>Where is the cat? What is the problem with this picture?</p> <ul style="list-style-type: none"> • Cats don't like water • Cats can't breathe underwater • Cats don't live underwater <p>Where is the cat? What is the problem with this picture?</p> <ul style="list-style-type: none"> • Cats don't live on the moon • Cats can't breathe in space <p>Where is the cat? What is the problem with this picture?</p> <ul style="list-style-type: none"> • Pet cats don't live in the Arctic • Cats don't like the cold 	<p>How could you solve these problems? What could you change?</p> <p>They could change the backgrounds to more appropriate backgrounds</p> <p>How many sprites can you spot in this project?</p> <p>4 - e.g. looking at the number of sprites down the left-hand side of the screen.</p>	<p style="text-align: center;">Disciplinary Knowledge</p> <p>Will be able to move characters on-screen using commands.</p> <p>Can use a Start block to run their programs and follow given algorithms to create simple programs.</p> <p>Will understand the effect on a block of changing a value.</p> <p>Will be able to add and delete sprites and to give instructions to each of the sprites.</p> <p>Can successfully move, and create an algorithm based on the blocks available in ScratchJr.</p> <p>Will be able to test whether their algorithms are effective when their programs are run.</p>	<p>program</p> <p>algorithm</p> <p>ScratchJr</p> <p>command</p> <p>sprite</p> <p>block</p>	<p>Computer</p> <p>Laptops</p>

End of unit assessment questions

Lesson Breakdown			
Lesson 1			
Flashback Four		Learning Objectives	Star Knowledge
<p><u>Last Lesson</u> What happens when you undo something? <i>The 'Undo' button can remove some of the changes that have been made to the page.</i></p>	<p><u>Last Topic</u> What does this key do? <i>Deletes letters/spaces.</i></p> 	<p>Learning objective: <u>LO: To choose a command for a given purpose</u></p> <p>Success criteria:</p> <ul style="list-style-type: none"> I can find the commands to move a sprite I can use commands to move a sprite <p><u>Task 1:</u> Allow the learners a short amount of time to have a look at the different movement blocks and try to make the cat move left. Ask the learners how they achieved this. Allow the learners to describe what they did e.g. I dragged the Move left block down into the programming area and tapped on it to make the cat go left. Encourage appropriate vocabulary covered so far. Repeat this for moving the sprite up, down and right.</p> <p><u>Task 2:</u> Tell the learners you are going to show them a number of animations. Explain that after you have watched the animations you want the learners to guess which Move block was used, and show the corresponding number on their fingers. Allow the learners time to share their answers by holding up their fingers.</p> <p>Answer: 1 — Move right</p> <p>Answer: 5 — Turn right</p> <p>Answer: 2 — Move left</p> <p>Answer: 3 — Move up</p>	<ul style="list-style-type: none"> Both Bee-Bots and ScratchJr can be programmed You can give instructions to both Bee-Bots and ScratchJr Both Bee-Bots and ScratchJr will follow the instructions as they are told to.
<p><u>Last Year</u> N/A</p>	<p><u>Previous Key stage</u> N/A</p>		
Lesson 2			
Flashback Four		Learning Objectives	Star Knowledge
<p><u>Last Lesson</u> What are the similarities between bee-bots and ScratchJr?</p> <ul style="list-style-type: none"> Both Bee-Bots and ScratchJr can be programmed You can give instructions to both Bee-Bots and ScratchJr Both Bee-Bots and ScratchJr will follow the instructions as they are told to. 	<p><u>Last Topic</u> What does this key do? <i>Adds a space between letters/ words</i></p> 	<p>Learning objective: <u>LO: To show that a series of commands can be joined together</u></p> <p>Success criteria:</p> <ul style="list-style-type: none"> I can use more than one block by joining them together I can use a Start block in a program I can run my program <p><u>Task 1:</u> Ask the learners 'Can you make a program with this Start block, this End block, and five Move blocks of your choice?' Allow the learners time to create their programs. Monitor the learners' tablets/laptops/computers as they create their programs, and encourage them to join the blocks.</p> <p><u>Task 2:</u> Tell the learners that you would like them to choose the classroom background, and then create the program shown on the slide to see which object the cat lands on. Click the slide to play the animations. Click again to show the options for where the cat sprite might land: cake, planet, or bus. Allow the learners time to copy the program using the appropriate Start, End, and Move blocks.</p>	<p>When you create programs in ScratchJr you can link the blocks together like a jigsaw and you can read the program from left to right, just like reading the pages of a book.</p>
<p><u>Last Year</u> N/A</p>	<p><u>Previous Key stage</u> N/A</p>		
Lesson 3			
Flashback Four		Learning Objectives	Star Knowledge
<p><u>Last Lesson</u> What do these code blocks do?</p> 	<p><u>Last Topic</u> What does this key do? <i>Shifts down the cursor onto the next line below.</i></p> 	<p>Learning objective: <u>LO: To identify the effect of changing a value</u></p> <p>Success criteria:</p> <ul style="list-style-type: none"> I can find blocks that have numbers 	<p>You can only make the algorithm shorter by changing the number on the code block, if the blocks are the same and they are next to each other.</p>

		<p>Tell the learners that you would like them to mark onto their background sketches the rockets in their starting places so that they know where they will begin at the start of the program. Ask them to draw arrows on the background to show where they will finish. They should also label their rockets 'First', 'Second', and 'Third' as shown in the example, to declare the order in which the rockets will finish the race.</p> <p><u>Task 3:</u> Tell the learners that they need to think about how the sprites will move on the screen. Tell the learners they now need to add the programs to the correct rockets. Explain that they just need to add the programming blocks to the correct rockets using their design to help them. Allow the learners time to create their programs.</p> <p><u>Task 4:</u> Demonstrate to learners how to upload their work onto their Google classroom under the assignment labelled 'Programming animations – Lesson 5.' Ensure learners have saved their work with their first name and the initial of their last name.</p>	
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