



<b>SKILLS</b>	<p>Follow instructions given by someone else</p> <p>Choose a series of words that can be acted out as a sequence</p> <p>Give clear instructions</p>	<p>Use the same instructions to create different algorithms</p> <p>Use an algorithm to program a sequence on a floor robot</p>	<p>Follow a sequence</p> <p>Predict the outcome of a sequence</p> <p>Compare my prediction to the program outcome</p>	<p>Explain the choices that I made for my mat design</p> <p>Identify different routes around my mat</p> <p>Test my mat to make sure that it is usable</p>	<p>Explain what my algorithm should achieve</p> <p>Create an algorithm to meet my goal</p> <p>Use my algorithm to create a program</p>	<p>Test and debug each part of the program</p> <p>Plan algorithms for different parts of a task</p> <p>Put together the different parts of my program</p>	<p>This unit develops children' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Children will use given commands in different orders to investigate how the order affects the outcome. They will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them. This unit includes references relating to Bee-Bot and Blue-Bot floor robots, however, other educational floor robots are available. Children should be given access to a device with a limited range of functions that is designed for young children.</p>
<b>KNOWLEDGE</b>	<p>To know that an algorithm is a set of ordered instructions which can be turned into code</p>	<p>To know what an algorithm is and how we use them</p> <p>To show the difference in outcomes between two sequences that consist of the same instructions</p>	<p>To know what an algorithm is and how we use them</p> <p>To know following an algorithm or program is called 'code tracing'.</p>	<p>Design in programming not only includes code and algorithms, but also artefacts related to the project, such as artwork.</p>	<p>To know that an algorithm is a set of ordered instructions which can be turned into code</p> <p>To understand what a program is and what we want them to achieve</p>	<p>To know that an algorithm is a set of ordered instructions which can be turned into code</p> <p>Know that 'debugging' is finding and fixing errors in algorithms and programs.</p>	<p>Children will be familiar with floor robots, they will know how to switch the devices on and off, as well as key functions such as clearing the memory.</p> <p>Children will know and understand the terminology algorithm, sequence, code and debugging</p>
<b>LESSON LINK</b>	<a href="#">Robot algorithms</a>	<a href="#">Robot algorithms</a>	<a href="#">Robot algorithms</a>	<a href="#">Robot algorithms</a>	<a href="#">Robot algorithms</a>	<a href="#">Robot algorithms</a>	
<b>PROGRESSIVE VOCABULARY</b>	<p>instruction</p> <p>sequence</p> <p>clear</p> <p>unambiguous</p> <p>algorithm</p> <p>program,</p>	<p>sequence</p> <p>order</p> <p>algorithm</p> <p>instruction</p>	<p>sequence</p> <p>prediction</p> <p>program</p>	<p>artwork</p> <p>design</p> <p>route</p> <p>mat</p>	<p>algorithm</p>	<p>debugging</p> <p>algorithm</p> <p>program</p> <p>decomposition</p>	
<b>CURRICULUM EXPERIENCES</b>				<p>Create a robot floor mat (artwork)</p>			

<p><b>END POINT</b></p>	<p>Children will follow instructions given to them and give instructions to others. They will consider the language used to give instructions, and how that language needs to be clear and precise. Children will combine several instructions into a sequence that can then be issued to another learner to complete. They will then consider a clear and precise set of instructions in relation to an algorithm, and will think about how computers can only follow clear and unambiguous instructions.</p>	<p>Children will focus on sequences, and consider the importance of the order of instructions within a sequence. They will create sequences using the same instructions in different orders. They will then test these sequences to see how the different orders affect the outcome.</p>	<p>Children will use logical reasoning to make predictions. They will follow a program step by step and identify what the outcome will be.</p>	<p>Children will design, create, and test a mat for a floor robot. This will introduce the idea that design in programming not only includes code and algorithms, but also artefacts related to the project, such as artwork.</p>	<p>Children will design an algorithm to move their robot around the mat that they designed in Lesson 4. As part of the design process, children will outline what their task is by identifying the starting and finishing points of a route. This outlining will ensure that children clearly understand what they want their program to achieve.</p>	<p>Children will take on a larger programming task. They will break the task into chunks and create algorithms for each chunk. This process is known as 'decomposition' and is covered further in key stage 2. Children will also find and fix errors in their algorithms and programs. They will understand this process to be 'debugging'.</p>	
-------------------------	--	--	--	---	---	--	--