




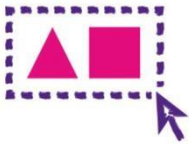



Year 5 Programming Progression 2020 - 2021

Y5	Programming - Variables	Computational Thinking - Abstraction	What this looks like - Example Projects
GDS	<ul style="list-style-type: none"> Experiment and debug a program using a <i>variable</i> and a <i>conditional</i> statement to improve the quality and simplicity. I can create my own program to solve a problem, incorporating a <i>variable</i> and <i>conditional</i>. 	Can use <u>abstraction</u> to tinker and debug their program to make it as simple and effective as possible.	<p>In Y5 children should begin experimenting with <i>variables</i> and <i>conditionals</i>. With Swift children will transition from block-based language to text based. Children could compare the statements of block coding with similar statements in text-based languages.</p> <p>To develop their understanding of variables children in Y5 could program a video game using Scratch or Tynker with a score or use the Micro:bits to make a reaction game.</p>
EXS	<ul style="list-style-type: none"> Read, design, write and debug a program using a <i>variable</i> and a <i>conditional</i>. I can work collaboratively to plan and run a program incorporating a <i>variable</i> and <i>conditional</i>. 	Can use <u>abstraction</u> to remove unnecessary details to actively improve their program.	<p>Using selection the children can create interactive stories on Scratch like this example.</p> <p>BBC What are Variables? BBC What is Selection?</p>
WTS	<ul style="list-style-type: none"> Read, design and write a simple program using a <i>variable</i> and a <i>conditional</i>. I know what a <i>variable</i> and <i>conditional</i> is. 	Can use <u>abstraction</u> to remove unnecessary detail.	

Key Vocabulary	Apps	Breakdown
 <p>Variable</p>	   	<p>In Y4 children will have developed a better understanding of Tynker. Building on that children can look at the Tynker blocks language and compare that to swift playgrounds.</p>
 <p>Selection</p>		<p>In Y5 children should be exposed to different programming languages. Swift is the perfect extension from Hopscotch as the children can learn how to code a basic game using the skills they have developed so far, only in a text-based language?</p> <p>Using scratch children could pick games already created by Scratch authors and 'look inside' and Tinker with the code to see what effect this has.</p>
 <p>Abstraction</p>		<p>Carrying on from the work building basic Circuits in Y4 children can continue this by exploring different types of input with programs for example: programming an 'electric guitar' or 'fruit piano'.</p>

NC KS2 Objectives

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs