



# St Barnabas

Church of England Primary Academy

A member of **CDARI**

## AUTUMN 2 OVERVIEW - COMPUTING

Year Group	What will be covered?	Learning Outcomes
1	<p>Pupils will use games to learn key coding skills. The sessions will start by looking at everyday tasks and thinking about the thought behind a series of problems within the app 'Kodable'. This will culminate in students learning how to use the coding language 'Blockly', the app 'Hopscotch' and using the word algorithm with ease.</p>	<p>To learn to program simple shapes on the app Hopscotch. To understand how to write in steps and be able to demonstrate when writing code. To be able to use code to solve problems.</p> <p>In year 1 children are expected to:</p> <ul style="list-style-type: none"> <li>● know what a computer is and what it is used for</li> <li>● know that instructions are also known as algorithms</li> <li>● understand that computers aren't capable of thought</li> <li>● know what functions do to our code</li> </ul>
2	<p>Building upon their knowledge of 'Blockly' from Level 1 they will apply it to create games, control solutions and other problems mimicking real application of programming. We will also introduce written programming languages and learn basic syntax.</p>	<p>To be able to understand how 'If, and, or, else' statements are used within programming. To be able to design a program on a storyboard and have the skills to create their program in Hopscotch.</p> <p>In year 2 children are expected to:</p> <ul style="list-style-type: none"> <li>● know what a computer is and what it is used for</li> </ul>

		<ul style="list-style-type: none"> <li>● know that instructions are also known as algorithms</li> <li>● understand that computers aren't capable of thought</li> <li>● know what functions do to our code</li> <li>● write algorithms to achieve certain goals</li> <li>● understand that algorithms should be as short as possible</li> <li>● can use repeats to make their algorithms shorter</li> <li>● know that algorithms can be used to solve problems</li> </ul>
3	<p>Pupils will use games to learn key coding skills. They will learn how to use the coding language 'Blockly' to introduce key programming elements such as steps, loops, basic logic and functions such as 'if' statements. This will progress into using code to create 'Spirograph' style artwork.</p>	<p>To learn to program simple shapes and eventually a small game. To know the basic logical steps needed when designing code and the best way to write them. To understand the difference between WAN and LAN networks.</p> <p>In year 3 children are expected to:</p> <ul style="list-style-type: none"> <li>● define what a computer is</li> <li>● explain what an algorithm is and write their own</li> <li>● know why you should shorten algorithms</li> <li>● know how variables change code</li> </ul>
4	<p>Building upon their knowledge of 'Blockly' from Level 1 they will apply it to creating classic arcade games, control solutions and other problems mimicking real applications of programming. Pupils will also learn how to expand their code during the latter part of the</p>	<p>Throughout iProgram Level 2 we will be learning about 'Operators' and 'Syntax' through various coding tasks.</p> <p>In year 4 we expect children to:</p> <ul style="list-style-type: none"> <li>● recreate programs using prompt code</li> <li>● visually differentiate between coding languages</li> </ul>

	course.	<ul style="list-style-type: none"> <li>● add a scoreboard to their pre existing code</li> <li>● understand how to use variables to expand their program</li> </ul>
5	Building upon their knowledge of 'Blockly' from Level 1 they will apply it to creating classic arcade games, control solutions and other problems mimicking real applications of programming. Pupils will also learn how to expand their code during the latter part of the course.	<p>Throughout iProgram Level 2 we will be learning about 'Operators' and 'Syntax' through various coding tasks.</p> <p>In year 5 we expect children to:</p> <ul style="list-style-type: none"> <li>● recreate programs using prompt code</li> <li>● visually differentiate between coding languages</li> <li>● add a scoreboard to their pre existing code</li> <li>● understand how to use variables to expand their program</li> <li>● create a game using conditionals</li> <li>● able to code variables</li> </ul>
6	Building upon their knowledge of 'Blockly' from Level 1 they will apply it to creating classic arcade games, control solutions and other problems mimicking real applications of programming. Pupils will also learn how to expand their code during the latter part of the course.	<p>Throughout iProgram Level 2 we will be learning about 'Operators' and 'Syntax' through various coding tasks.</p> <p>In year 6 we expect children to:</p> <ul style="list-style-type: none"> <li>● recreate programs using prompt code</li> <li>● visually differentiate between coding languages</li> <li>● add a scoreboard to their pre existing code</li> <li>● understand how to use variables to expand their program</li> <li>● create a game using conditionals</li> <li>● able to code variables</li> <li>● able to debug their own work</li> <li>● can start to code using Swift</li> </ul>