

# Computing Skills, Knowledge and Vocabulary Progression



Year 5

## Autumn 1

### Vocabulary

5:1 Coding  
(6 Weeks)

Action  
Alert  
Algorithm  
Bug  
Code Design  
Command  
Control  
Debug/Debugging  
Design Mode  
Event  
Get Input  
If (command)  
If/Else  
Input  
Output  
Object  
Repeat  
Sequence  
Selection  
Simulation  
Timer  
Variable

<p><b><u>Knowledge</u></b></p> <p><b>5:1 Coding</b></p> <p><b>(6 Weeks)</b></p>	<p>To review coding vocabulary.</p> <p>To be able to explain how their program simulates a physical system.</p> <p>To be able to reflect/explain upon the effectiveness of their simulation.</p> <p>Explain what a variable is in programming.</p> <p>To understand that you can set/change the variable values appropriately.</p> <p>To know some ways that text variables can be used in coding.</p> <p>To read code so that it can be adapted, personalised and improved.</p>
<p><b><u>Skills</u></b></p> <p><b>5:1 Coding</b></p> <p><b>(6 Weeks)</b></p>	<p>To use a sketch or storyboard to represent a program design and algorithm and to use the design to create a program.</p> <p>To design and write a program that simulates a physical system.</p> <p>To select the relevant features of a situation to incorporate into their simulation by using decomposition and abstraction.</p> <p>To create a game which has a timer and score pad.</p> <p>To use variables to control the objects in the game.</p> <p>To can create loops using the timer and If/else statements.</p> <p>To create a playable, competitive game.</p> <p>To combine the use of variables, If/else statements and Repeats to achieve the desired effect in code.</p> <p>To create a program to inform others.</p> <p>To include buttons and objects that launch windows to websites and programs.</p> <p>To code a program that informs others.</p>
	<p><b>Autumn 2</b></p>
<p><b><u>Vocabulary</u></b></p> <p><b>5:2 Online Safety</b></p> <p><b>(3 weeks)</b></p>	<p><b>Online safety</b></p> <p><b>Smart rules</b></p> <p><b>Password</b></p> <p><b>Reputable</b></p> <p><b>Encryption</b></p> <p><b>Identity theft</b></p> <p><b>Shared image</b></p> <p><b>Plagiarism</b></p> <p><b>Citations</b></p>

	<b>Reference Bibliography</b>
<b>Knowledge</b>  <b>5:2 Online Safety</b>  <b>(3 Weeks)</b>	<p>To gain a greater understanding of the impact that sharing digital content can have.</p> <p>Children know what Childnet SMART CREW is and have thought critically about the information that they share online both about themselves and others.</p> <p>Children know who to tell if they are upset by something that happens online.</p> <p>Children can use the SMART rules as a source of guidance when online.</p> <p>To know how to maintain secure passwords.</p> <p>Children have clear ideas about good passwords.</p> <p>To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this.</p> <p>To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.</p> <p>Children are aware how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge.</p> <p>To know how to reference sources in their work.</p>
<b>Skills</b>  <b>5:2 Online Safety</b>  <b>(3 Weeks)</b>	<p>To review sources of support when using technology.</p> <p>To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information, ensuring reliability through using different methods of communication.</p> <p>Children can cite all sources when researching and explain the importance of this.</p> <p>Children can select keywords and use search techniques to find relevant information and increase reliability.</p>
	<b>Spring 1</b>
<b>Vocabulary</b>  <b>5:3 Spreadsheets</b> <b>(5 Weeks)</b>	<b>Average Copy and Paste Columns Cells Charts Equals tool</b>

	<b>Formula</b> <b>Formula Wizard</b> <b>Move cell tool</b> <b>Random tool</b> <b>Rows</b> <b>Spin Tool</b> <b>Spreadsheet</b> <b>Timer</b>
<u><b>Knowledge</b></u>  5:3 Spreadsheets (5 Weeks)	Children know how to create a formula in a spreadsheet to convert m to cm - Children can apply this to creating a spreadsheet that converts miles to km and vice versa. Children know how to use a spreadsheet to work out which letters appear most often. Children know how to create simple formulae that use different variables. Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied.
<u><b>Skills</b></u>  5:3 Spreadsheets (5 Weeks)	Children can use the 'how many' tool. Children can use a spreadsheet to work out the area and perimeter of rectangles. Children can use these calculations to solve a real-life problem. Children can create a formula that will work out how many days there are in x number of weeks or years.
	<b>Spring 2</b>
<u><b>Vocabulary</b></u>  5:4 Databases (4 weeks)	<b>Avatar</b> <b>Binary tree (branching database</b> <b>Charts</b> <b>Collaborative</b> <b>Data</b> <b>Database</b> <b>Find</b>

	<b>Record</b> <b>Sort, Group and Arrange</b> <b>Statistics and reports</b> <b>Table</b>
<u><b>Knowledge</b></u>  5:4 Databases (4 weeks)	To know how to search for information on a database. Children understand the different ways to search a database. Children know what a database field is and can correctly add field information. Children understand how to word questions so that they can be effectively answered using a search of their database.
<u><b>Skills</b></u>  5:4 Databases (4 weeks)	Children can search a database in order to answer questions correctly. Children can design an avatar for a class database. Children can successfully entered information into a class database. Children can create their own database on a chosen topic. Children can add records to their database.
	<b>Summer 1</b>
<u><b>Vocabulary</b></u>  5:5 Game Creator (5 weeks)	<b>Animation</b> <b>Computer game</b> <b>Customise</b> <b>Evaluation</b> <b>Image</b> <b>Instructions</b> <b>Interactive</b> <b>Screenshot</b> <b>Texture</b> <b>Perspective</b> <b>Playability</b>

<p><b><u>Knowledge</u></b></p> <p>5:5 Game Creator (5 weeks)</p>	<p>Children can describe some of the elements that make a successful game.</p> <p>Children can complete the process of designing their own game.</p> <p>Children can design the setting for their game so that it fits with the selected theme</p> <p>Children know how to upload images or use the drawing tools to create the walls, floor and roof.</p> <p>Children can design characters for their game.</p> <p>Children can decide upon, and change, the animations and sounds that the characters make.</p> <p>Children know how to make their game more unique by selecting the appropriate options to maximise the playability.</p> <p>Children understand how to write informative instructions for their game so that other people can play it.</p>
<p><b><u>Skills</u></b></p> <p>5:5 Game Creator (5 weeks)</p>	<p>Children can review and analyse a computer game.</p> <p>Children can evaluate my their own and peers' games to help improve their design for the future.</p>
	<p><b>Summer 2</b></p>
<p><b><u>Vocabulary</u></b></p> <p>5:6 3D Modelling (4 weeks)</p>	<p><b>CAD</b></p> <p><b>Modelling -</b></p> <p><b>3D</b></p> <p><b>Viewpoint</b></p> <p><b>Polygon</b></p> <p><b>2D</b></p> <p><b>Net</b></p> <p><b>3D Printing</b></p> <p><b>Points</b></p> <p><b>Template</b></p>
<p><b><u>Knowledge</u></b></p> <p>5:6 3D</p>	<p>Children know what the 2Design and Make tool is for.</p> <p>Children know how to adapt one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form.</p> <p>Children know how to edit the polygon 3D models to design a 3D model for a purpose.</p>

<p>Modelling (4 weeks)</p>	<p>Children are able to refine one of their designs to prepare it for printing Children understand the possibilities of 3D printing.</p>
<p><u>Skills</u>  5:6 3D Modelling (4 weeks)</p>	<p>Children have explored the different viewpoints in 2Design and Make whilst designing a building. Children have printed their design as a 2D net and then created a 3D model.</p>
<p><u>Vocabulary</u>  5:7 Concept Maps (4 weeks)</p>	<p><b>Audience</b> <b>Collaboratively</b> <b>Concept</b> <b>Concept Map</b> <b>Connection</b> <b>Idea</b> <b>Node</b> <b>Thought</b> <b>Visual</b></p>
<p><u>Knowledge</u>  5:7 Concept Maps (4 weeks)</p>	<p>Children are able to make connections between thoughts and ideas. Children can see the importance of recording concept maps visually. Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections' map.</p>
<p><u>Skills</u>  5:7 Concept Maps (4 weeks)</p>	<p>Children can create a basic concept Children are able to use 2Connect Story Mode to create an informative text. Children have used 2Connect collaboratively to create a concept map. Children have used Presentation Mode to present their concept maps to an audience.</p>

