

## Computing Knowledge and skill progression

<u>Computer Science</u>			<u>Information Technology</u>	<u>Digital Literacy</u>	
<u>Algorithms/ Problem solving</u>	<u>Programming</u>	<u>Logical thinking</u>	<u>Creating content</u>	<u>Using IT beyond school</u>	<u>E-Safety</u>
<p>Pupils should be taught to understand:</p> <ul style="list-style-type: none"> <li>• what algorithms are.</li> <li>• how algorithms are implemented as programs on digital devices.</li> <li>• that programs execute by following precise and unambiguous instructions.</li> </ul>	<p>Pupils should be taught to create and debug simple programs</p>	<p>Pupils should be taught to use logical reasoning to predict the behaviour of simple programs</p>	<p>Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital content</p>	<p>Pupils should be taught to recognise common uses of information technology beyond school</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• use technology safely and respectfully.</li> <li>• keep personal information private.</li> <li>• identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>

Year 1				
•	• <u>Autumn</u>	• <u>Spring</u>	• <u>Summer</u>	•
Curriculum Theme	Computer Systems and Networks	Moving a Robot	Digital Painting	E-Safety
Knowledge (NC)	<p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>To explain that technology is something that can help us.</li> <li>To identify examples of technology.</li> <li>To explain how examples of technology help us.</li> <li>To recognise that a computer is an example of technology.</li> <li>To recognise that choices are made when using technology.</li> <li>To understand that we can use a keyboard to type letters, numbers, symbols.</li> <li>To understand that we can use a mouse or a track pad to select, click, move pictures or objects.</li> <li>To understand where is find and open a piece of work.</li> </ul> <p><b>Digital Literacy</b></p>	<p><b>Computer Science</b></p> <ul style="list-style-type: none"> <li>To recall words that can be enacted.</li> <li>To explain what a given command does.</li> <li>To match a command to an outcome.</li> <li>To understand that a program is a set of commands that a computer can run.</li> <li>To recall that a series of instructions can be issued before they are enacted.</li> <li>I understand what algorithms are.</li> <li>I understand the sequence of algorithms is important.</li> <li>To understand correcting a mistake in a program is called debugging.</li> <li>I understand that algorithms are implemented as</li> </ul>	<p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>To explain what different freehand tools do.</li> <li>To recognise computers can be used to create art.</li> <li>To recognise a tool can be adjusted to suit my need.</li> <li>To decide when it's appropriate to use each tool.</li> <li>To decide when it's appropriate to use each tool.</li> <li>To compare painting using a computer with painting using brushes.</li> </ul>	<p><b>Digital Literacy</b></p> <ul style="list-style-type: none"> <li>To understand we need to use technology safely and respectfully.</li> <li>To understand what we can do if we see or hear anything that makes us feel upset.</li> <li>To know to tell a trusted grownup if any technology makes us feel uncomfortable or worried.</li> <li>To understand the importance of keeping our personal details private.</li> </ul>

	<ul style="list-style-type: none"> <li>• To explain why rules are needed when using technology.</li> <li>• To understand that technology is something that has been made to help us complete a task/job.</li> </ul>	<p>programs on digital devices</p> <p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>• A computer (for example a Beebot) is a device with inputs, outputs and the ability to store programs.</li> <li>• A robot is a computer that can move.</li> </ul>		
Skills	<p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>• To confidently type words on a digital device (e.g. name)</li> <li>• To use the space bar to make space and delete to delete letters/words</li> <li>• To use the keyboard to edit text.</li> <li>• To use a mouse in different ways.</li> <li>• To open, save and print work.</li> </ul> <p><b>Digital Literacy</b></p> <ul style="list-style-type: none"> <li>• To choose a piece of technology to do a job.</li> </ul>	<p><b>Computer Science</b></p> <ul style="list-style-type: none"> <li>• To enact a given word.</li> <li>• To predict the outcome of a command on a device.</li> <li>• To list which commands can be used on a given device.</li> <li>• To run a command on a floor robot.</li> <li>• To choose a command for a given purpose.</li> <li>• To choose a series of words that can be enacted as a program.</li> <li>• To choose a series of commands that can be run as a program</li> </ul>	<p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>• To create a picture using freehand tools.</li> <li>• To create a picture using freehand tools.</li> <li>• To create a picture using freehand tools.</li> <li>• To use the fill tool to colour an enclosed area.</li> <li>• To use the fill tool to colour an enclosed area.</li> <li>• To use the undo button to correct a mistake.</li> </ul>	<p><b>Digital Literacy</b></p> <ul style="list-style-type: none"> <li>• To be able to use technology safely and respectfully.</li> <li>• To be able to identify who our safe adults are.</li> <li>• To be able to talk about how to stay safe with technology.</li> <li>• To be able to keep our personal details private.</li> <li>• To understand that some information is not</li> </ul>

	<ul style="list-style-type: none"><li>• To recognise that some technology can be used in different ways.</li><li>• To identify the main parts of a computer.</li></ul>	<ul style="list-style-type: none"><li>• To build a sequence of commands in steps.</li><li>• To combine commands in a program.</li><li>• To run a program on a device.</li></ul>	<ul style="list-style-type: none"><li>• To combine a range of tools to create a piece of artwork.</li></ul>	safe to share online.
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Year 2				
	<u>Autumn</u>	<u>Spring</u>	<u>Summer</u>	
Curriculum Theme	Digital Photography	Robot Algorithm	Computer Systems and networks	E-Safety (This is filtered through the main units of work and Safer Internet days)
Knowledge (NC)	<b>Information Technology</b> <ul style="list-style-type: none"> <li>To talk about how to take a photograph.</li> <li>To make choices when composing my photography.</li> <li>To recognise features of 'good' photography.</li> <li>To identify how a photograph can be improved.</li> <li>To explain the effect of light on a photograph.</li> <li>To recognise that photos can be changed after they have been taken.</li> <li>To recognise that some images are not accurate.</li> </ul>	<b>Computer Science</b> <ul style="list-style-type: none"> <li>To describe that a series of instructions is a sequence.</li> <li>To explain what happens when we change the order of instructions.</li> <li>To recall that a series of instructions can be issued before they are enacted.</li> <li>To recognise that you can predict the outcome of a program.</li> <li>To understand decomposition is breaking objects/processes down</li> </ul>	<b>Digital Literacy</b> <ul style="list-style-type: none"> <li>To understand what is and is not Information technology.</li> <li>To understand that there are different types of Information technology in school.</li> <li>To identify that a computer is part of Information Technology.</li> <li>To explain how Information Technology can benefit us.</li> <li>To recognise that choices are made when using Information Technology.</li> </ul>	<b>Digital Literacy</b> <ul style="list-style-type: none"> <li>To know that when we use technology there are rules that we need to follow.</li> <li>To understand that anyone can use the internet and to make sure our safe adults know when and what we are doing online.</li> <li>To know and understand the benefits of talking and sharing our online activities with trusted adults.</li> <li>To understand what information is and is not safe to share online.</li> </ul>

<p>Skills</p>	<p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>• To take photographs in landscape and portrait.</li> <li>• To decide which photos to keep.</li> <li>• To hold the camera still to get a clear picture.</li> <li>• To use zoom to change the composition of the photo.</li> <li>• To consider the lighting before taking a photo.</li> <li>• To use filters to edit the appearance of a photo.</li> <li>• To improve a photo by retaking it.</li> </ul>	<p><b>Computer Science</b></p> <ul style="list-style-type: none"> <li>• To choose a series of words/commands that can be enacted as a sequence.</li> <li>• To choose a series of instructions that can be run as a program.</li> <li>• To create a program.</li> <li>• To use logical reasoning to predict the outcome of algorithms</li> <li>• To trace a sequence to make a prediction.</li> <li>• To run a program on a device.</li> <li>• To debug a program that I have written.</li> </ul>	<p><b>Information Technology.</b></p> <ul style="list-style-type: none"> <li>• To be able to describe the uses of computers.</li> <li>• To be able to identify Information technology in school and the wider world</li> <li>• To be able to use a mouse or track pad to edit the size and position of an image.</li> <li>• To begin using the keyboard to form sentences using a range of keys.</li> <li>• To create and print a poster.</li> </ul> <p><b>Digital Literacy</b></p> <ul style="list-style-type: none"> <li>• To use the website safely to find information on the topic.</li> <li>• To sort things that are Information Technology and things that are not.</li> <li>• To act out the role of a computer system communicating to other devices.</li> </ul>	<p><b>Digital Literacy</b></p> <ul style="list-style-type: none"> <li>• To be able to communicate online in a respectful manner.</li> <li>• To be able to talk and share with an adult when there are problems.</li> <li>• To be able to keep my personal information private.</li> <li>• To be able to talk about what I want to do online.</li> <li>• To ask permission before taking photos.</li> </ul>
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