

Strand	Program of Study	LI and SC	Activity Suggestions	Learning Outcome – By the end of this unit children should be able to...
ICT	select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	<ul style="list-style-type: none"> <li>See separate sheet</li> </ul>	To be taught cross-curricularly e.g. making an animation in Literacy or making a table with animal information in Science	<ul style="list-style-type: none"> <li>See separate sheet</li> </ul>
What are Computers?	recognise common uses of information technology beyond school	LI: to recognise computers and understand what they do  I must remember: <ul style="list-style-type: none"> <li>A computer is a device that performs a range of functions according to how it is programmed.</li> </ul>	Look at a variety of scratch games and discuss what the 'input' is. Can they design a new game that uses various inputs – differentiation including sending messages  Sort a selection of images from hardware to software and define both. Could they create an animation explaining both?  Children look at a variety of scenarios and decide whether the tasks are best suited to humans or computers and explain why they think that. They could then go on to design human/computer systems appropriate for use	<ul style="list-style-type: none"> <li>I know that computers collect data from various input devices, including sensors and application software.</li> <li>I know the difference between hardware and application software, and their roles within a computer system.</li> <li>I know why and when computers are used.</li> <li>I can show an awareness of tasks best completed by humans or computers.</li> <li>I know the main functions of the operating system.</li> </ul>
Programming	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	LI: To program a computer  I must remember: <ul style="list-style-type: none"> <li>A computer will only do what it has been programmed to do</li> <li>To break instructions down into small steps</li> <li>Programs run in order from start to finish</li> </ul>	Children create a simple text-based adventure game including variables and conditionals. The program will take them several weeks and will involve constant debugging. They can keep a journal to map the barriers they've had to overcome.  Children create a complex game that needs to be broken down into steps e.g. background, characters and actions. This can be based around the same brief for everyone but they are left to implement it as they wish. Compare the code afterwards.	<ul style="list-style-type: none"> <li>I can plan what needs to be written for each stage</li> <li>I can write a computer program with several steps in order to achieve a goal</li> <li>I can debug a simple program after testing it</li> <li>I can design solutions by decomposing a problem and create a sub-solution for each of these parts</li> <li>I know that different solutions exist for the same problem.</li> <li>I know the difference between, and appropriately I can use if and if, then and else statements.</li> </ul>

<p>Networks and The Internet</p>	<p>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</p>	<p>LI: To know how to design a webpage</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ A webpage is written in HTML</li> <li>○ To include ‘tags’ which tell the computer whether you have a paragraph of text, an image or a hyperlink</li> </ul> <hr/> <p>LI: To know the difference between physical, wireless and mobile networks</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ Physical networks need the computers to be connected with wires</li> <li>○ Wireless networks need a local router which connects</li> <li>○ Mobile networks need a satellite to connect to</li> </ul>	<p>Explore the HTML code in a range of websites – look at them and discuss what it does.</p> <p>Introduce the children to a set of tags (with the layout of the HTML document already created) and ask them to suggest what they think they do. Show them the HTML document, which they create. Children can begin to create a website with these tags – either editing existing ones and then building on it or starting from scratch.</p> <p>Get the children to explain their current understanding of physical and wireless networks. What are these? Why would you use each? You may connect to wireless internet if you are in range of it but what if you’re out? How does it have internet then? Brainstorm. Create a blog post explaining the different types of network.</p>	<ul style="list-style-type: none"> <li>• I can design a webpage and create a basic HTML file</li> <li>• I know the difference between physical, wireless and mobile networks.</li> </ul>
<p>Searching</p>	<p>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p>	<p>LI: To know how a search engine works</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ A search engine identifies the words typed into the search box and matches them to a database.</li> <li>○ This is like an index list of websites, which contain these keywords.</li> </ul>	<p>Give children a search term e.g. ‘Tudors’ what websites do they think it would find? What would be near the top? What would be near the bottom?</p> <p>If I want to find out about what the Tudors wear, what would be a good search term? Choose what you’d write in the box and then what you think would come up. Compare this to what does come up.</p> <p>Remind children that they would get different results in school to at home – why is this?</p> <p>Children create a ‘guide’ to good searching</p>	<ul style="list-style-type: none"> <li>• I can explain how a search engine chooses its results</li> <li>• I can explain how the results are ordered</li> <li>• I can explain why certain results rank higher than others</li> </ul>
<p>Digital Citizenship</p>	<p>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies</p>	<ul style="list-style-type: none"> <li>• See separate sheet</li> </ul>	<p>Taught through stories, videos, discussions, assemblies, class circle times.</p> <p>Activities include: Making posters, comic strips, role play.</p> <p>Include in other lessons when necessary.</p>	<ul style="list-style-type: none"> <li>• I can explain the benefits of sharing information online</li> <li>• I can choose a sensible password including letters, numbers and upper/lowercase</li> <li>• I can show the same behaviours online as I do offline</li> <li>• I can explain what to do if I find something inappropriate</li> <li>• I can understand how quickly information on the internet can spread</li> <li>• I can understand that information can still be on the internet even if the original source is deleted</li> <li>• I can explain the laws surrounding copyright on the internet</li> </ul>