

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>	What does a computer do? Think about a general level? What ‘things’ are, or use, computers. Can we come up with one definition? How do we know it has done what we wanted?  Children brainstorm different ways, which they can get information ‘into’ the computer. This could be with sorting input/output picture cards.  Children connect up a basic computer. They may also ‘design’ their own (fictional) computer explaining its inputs/outputs.	<ul style="list-style-type: none"> <li>I can explain that a computer receives an input, processes it and then gives a visible output</li> <li>I can explain the various inputs and output connections in a simple computer</li> <li>I can connect the peripherals of a computer</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 look at a program (could be Scratch, Python or Ruby) and discuss what they think it does. Can they see any similarities between the 3? Programming concepts are the same - it’s the syntax that changes!  Think about the song twinkle twinkle, what would be the steps to getting someone to play the song? Create a flow chart. Plan a song including: loops, conditionals, variables  When the song doesn’t sound right the children need to debug it.	<ul style="list-style-type: none"> <li>I can break down a problem into its smaller steps</li> <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 use a variable and relational operators within a loop to govern termination.</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 email works</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ To send an email you need an address</li> <li>○ The email is then passed from router to router until it reaches the correct address</li> </ul> <hr/> <p>LI: To know the difference between 'email' and 'chat'</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ Emails need an address and are like sending post</li> <li>○ Emails don't need to use the WWW to send</li> <li>○ Chat needs the WWW (or other software)</li> <li>○ Both chat users needs to be using the same software/website</li> </ul> <hr/> <p>LI: To know a webpage is written in HTML</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ HTML is a language which a website is written in</li> <li>○ A web browser translates HTML into what we see</li> </ul> <hr/> <p>LI: To know the difference between the Internet and a web browser</p> <p>I must remember:</p> <ul style="list-style-type: none"> <li>○ The Internet is two or more networks connected to each other</li> <li>○ A web browser translates HTML code into the images and texts that you see on a webpage</li> </ul>	<p>Explain the journey of an email. Compare a computer network to a postal system (e.g. Both need address, destination and are taken from one place to the next). Create an infographic comparing the two ways of sending information.</p> <p>Children tasked with explaining the difference between email and chat. Focus on the purpose – what are each likely to be used for? Which do they think might be more secure? Children create an information leaflet for younger children explaining the difference</p> <p>Introduce children to 'View Source' on websites and look at a simple website. Use Mozilla Thimble to see what each tag does, can the children manipulate the code e.g. changing the colour from red to green</p> <p>Children create a glossary of well known terms on the internet explaining what they mean and providing examples</p> <p>Use this website to discuss 'how Google works'  <a href="http://www.google.co.uk/about/datacenters/gallery/#/tech">http://www.google.co.uk/about/datacenters/gallery/#/tech</a></p>	<ul style="list-style-type: none"> <li>• I can explain how email works</li> <li>• I can explain the difference between email and chat</li> <li>• I can explain that a webpage is written in HTML</li> <li>• I can explain the difference between the internet and a web browser</li> </ul>
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<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>

