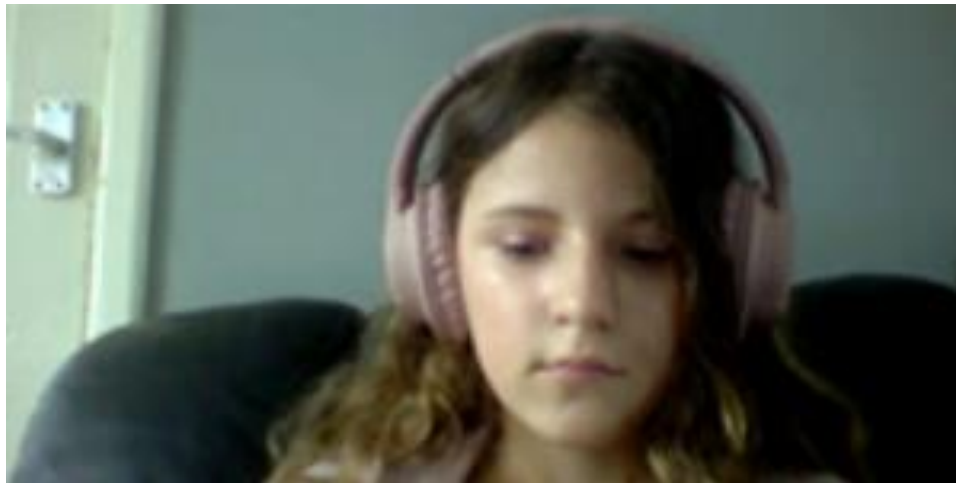




### **I am a computer scientist**

I am a computer scientist. I understand that the world is made up of problems that can be solved if I break them down into simpler parts. As a computer scientist, I can process, create and analyse simple algorithms. I can think logically and show resilience and determination when problem solving. When I have evaluated the algorithm, I can collaborate with my peers to try again, to de-bug and remove any unnecessary detail. As a computer scientist, I understand the importance of thinking and planning carefully before I start 'doing' as well as reviewing outcomes. I can make predictions about outcomes based on my past experiences and my understanding of the digital world. I seek to handle and present data in a variety of ways which helps me to learn creatively and make links across other curriculum areas. When online, I can safely, responsibly and respectfully browse the world wide web, being discerning when evaluating content and select appropriately. I understand that my online identity is an extension of my real-life identity therefore I am aware of my digital footprint. This helps me to prepare for my future and as an active participant in our ever-changing digital world.



Key Concepts for Computer scientists

	Key Concepts/strands	Contexts	
<p>What is computing?</p> <p>The first computer was designed by Charles Babbage and Ada Lovelace and is known as the Difference Engine in the 1820s and 30s. Since then advances in technology have meant that the slow and massive machines have developed into more efficient and compact devices we know today. The versatile nature of this technology means that it is in constant use and is ever changing but in essence runs on similar mathematical principals as the original machines. With this technology, we can store huge amounts of information and manipulate it at need. A language has developed around this technology which enables computer scientists to design and improve both hardware and software as well as share ideas. Our study of computing gives us a foundational understanding of this language and grounding in the main principals.</p>	<p><b>Computational Thinking</b></p> <ul style="list-style-type: none"><li>• Algorithms and algorithmic thinking</li><li>• De-bugging</li><li>• Abstraction</li><li>• Decomposition</li><li>• Pattern Recognition</li></ul>		
	<p><b>Computer Systems</b></p> <ul style="list-style-type: none"><li>• Hardware</li><li>• Networks</li><li>• Data representation</li></ul>		
	<p><b>Digital Literacy</b></p> <ul style="list-style-type: none"><li>• Functional IT skills</li><li>• Creation or presentation of content</li></ul>		
	<p><b>E-Safety</b></p> <ul style="list-style-type: none"><li>• Safe, respectful, responsible use of technology</li><li>• Identifying dangers</li><li>• Know where or who to contact if they have concerns</li></ul>		

**Key Concepts, Knowledge, Vocabulary and Skills – Computer scientists: Year 1**

Key Concept	Contexts	Key Knowledge and Vocabulary	Skills: Techniques & Application
<b>Computational thinking (CT):</b> Programs are made up of simple step-by-step instructions, these are called algorithms. This decision-making process includes decomposition, abstraction, pattern recognition, logical thinking, evaluation and generalisation. This facilitates an understanding of how computers 'think'.	Decomposition  Algorithms	<b>Decomposition</b> ★ Begin to understand algorithms are step-by-step instructions for achieving a goal (the 'how to' part of a recipe for a cake)  <b>Algorithms:</b> ★ Begin to understand that algorithms can describe everyday activities and can be followed by humans and by computers. ★ Begin to understand that programs work by following algorithms ★ Begin to show care and precision to avoid errors (being able to compare sets of instructions and see any differences). ★ Begin to run, evaluate and de-bug a simple algorithm with support	★ Understand computational thinking and programming concepts (CT): familiarise new vocabulary such as algorithms through unplugged resources and begin to apply these on a computer with support (Barefoot – see Appendix)  ★ Recognise and begin to use some digital devices (DL, CS): laptops, tablets and consoles. Turning on and off safely, familiarising themselves with the QWERTY keyboard, using the mouse and mouse pad.
<b>Digital Literacy (DL):</b>  Developing the required skills needed to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices.	Searching  Deciding  Presenting	• Begin to use technology safely • Begin to recognise and name common uses of information technology beyond school • Begin to use technology to create, store and retrieve digital content online	★ Begin to use software (DL & CT): such as: beebot (drawing a square on the floor), kodable, J2code, Scratch Jnr, code.org etc including Microsoft office tools
<b>E-safety:</b>  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.	Personal information  Where to go for help	<b><i>E-safety may not be taught as a discrete area but should be referred to whenever technology is used in all curriculum areas.</i></b>  • Begin to understand how to keep personal information private • Begin to know what to do when content that is concerning appears • Begin to know who to speak to if concerned about contact from others	★ Understand common icons (DL): minimize, maximize, new tab, play/pause, record, save, camera on/off etc  ★ Understand how to stay safe (DL): name trusted adults, begin to follow SMART rules (see appendix), understand technology and software within their age restrictions

**Key Concepts, Knowledge, Vocabulary and Skills – Computer scientists: Year 2**

Key Concept	Contexts	Key Knowledge and Vocabulary	Skills: Techniques & Application
<b>Computational thinking:</b> Programs are made up of simple step-by-step instructions, these are called algorithms. This logical decision-making process includes decomposition, abstraction, pattern recognition, logical thinking, evaluation and generalisation. This facilitates an understanding of how computers 'think'.	Decomposition  Algorithms  Evaluation	<b>Algorithms:</b> <ul style="list-style-type: none"> <li>★ Understand that algorithms are implemented as programs on digital devices</li> <li>★ Understand that programs execute by following precise and unambiguous instructions</li> <li>★ Use logical reasoning to predict the behaviour of simple programs</li> <li>★ Algorithms can be represented in simple formats [flow chart, storyboards and narrative text]</li> <li>★ Begin to express algorithms using icons</li> <li>★ Begin using loops, arithmetic operator and if statements when creating algorithms with support</li> </ul> <b>Decomposition:</b> <ul style="list-style-type: none"> <li>★ Create and debug simple programs with some support</li> <li>★ Steps can be repeated, and some steps can be made up of smaller steps</li> </ul>	<ul style="list-style-type: none"> <li>★ Understand computational thinking and programming concepts (CT): familiarise with new vocabulary such as algorithms through unplugged resources and apply these on a computer with support (Barefoot – see Appendix)</li> <li>★ Independently use some digital devices (DL, CS): laptops, tablets, smart phones, smart speakers and consoles. Using the QWERTY keyboard, using the mouse and mouse pad and begin to use shortcuts.</li> <li>★ Begin to use software (DL &amp; CS): such as: beebot (drawing a square on the floor), kodable, J2code, Scratch Jnr, code.org etc including Microsoft office tools</li> <li>★ Understand common icons (DL): minimize, maximize, new tab, play/pause, record, save, camera on/off etc</li> <li>★ Understand how to stay safe (DL &amp; ES): name trusted adults, begin to follow SMART rules (see appendix), understand technology and software within their age restrictions</li> </ul>
<b>Digital Literacy:</b>  Developing the required skills needed to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices.		<ul style="list-style-type: none"> <li>• Use technology safely and respectfully</li> <li>• Use technology purposefully to create, store and retrieve digital content</li> <li>• Begin to know the difference between some digital forms and begin to understand the different ways that they communicate information (words, numbers, images and audio)</li> </ul>	<ul style="list-style-type: none"> <li>★ Turn a range of devices on and off safely and log in independently</li> <li>★ Opening, using and saving commonly used programmes (Microsoft office tools).</li> <li>★ Manipulate font size, type and colour in a range of programs</li> <li>★ Be able to access and navigate different menu types</li> <li>★ Understand appropriate websites, games and apps which have age restrictions to ensure they are appropriate. (see appendix)</li> <li>★ Recognise common programs and/or APPS (YouTube, Netflix, Skype, FaceTime)</li> <li>★ Know who their trusted adults are to talk to about concerns</li> <li>★ Understand and apply SMART rules when online</li> <li>★ Know how to seek help and support if concerned e.g. Childline/NSPCC/thinkuknow (see appendix)</li> <li>★</li> </ul>
<b>E-safety:</b>  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.		<i>E-safety may not be taught as a discrete area but should be referred to whenever technology is used in all curriculum areas.</i> <ul style="list-style-type: none"> <li>• Understand how to keep personal information private</li> <li>• Know what to do when content that is concerning appears</li> <li>• Know who to speak to if concerned about contact from others</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>	

# Key Concepts, Knowledge, Vocabulary and Skills - Computer scientists: Year 3

Key Concept	Contexts	Key Knowledge and Vocabulary	Skills: Techniques & Application
<b>Computational thinking:</b> Programs are made up of simple step-by-step instructions, these are called algorithms. This decision-making process includes decomposition, abstraction, pattern recognition, logical thinking, evaluation and generalisation. Practising these facilitates an understanding of how computers 'think' and is the basis of creating user friendly programs.		<ul style="list-style-type: none"> <li>Design and write algorithms that accomplish specific goals</li> <li>Debug programs</li> <li>Use sequence, selection, and repetition in programs; work with variables</li> <li>Work with various forms of input and output</li> <li>solve problems by decomposing them into smaller parts</li> </ul>	<ul style="list-style-type: none"> <li>★ Use digital devices (DL, CS) laptops, tablets, smart phones, smart speakers and consoles for a range of purposes. Turning on and off safely, logging on correctly, familiarising themselves with the QWERTY keyboard and beginning to type, using the mouse and mouse pad to select and manipulate items on screen.</li> <li>★ Understand computational thinking and programming concepts (CT). Understand and apply the concepts and key vocabulary such as de-bugging using the glossary and barefoot unplugged resources (<a href="#">click here</a>). Begin planning the steps needed to complete a task. Start creating algorithms in a range of different programs J2code, Scratch, code.org, <a href="https://www.stem.org.uk/resources/elibrary/resource/35832/scratch-beginners">https://www.stem.org.uk/resources/elibrary/resource/35832/scratch-beginners</a>, <a href="https://www.twinkl.co.uk/resource/tp-i-005-planit-computing-year-2-programming-turtle-logo-and-scratch-unit-pack">https://www.twinkl.co.uk/resource/tp-i-005-planit-computing-year-2-programming-turtle-logo-and-scratch-unit-pack</a></li> </ul>
<b>Computer systems:</b> The storage, manipulation and communication of data is conducted by a range of computer systems from large scale servers, which contain vast databases to photos stored on a memory card.  Hardware and software are involved in computer systems and they interact with the user for a particular purpose.		<ul style="list-style-type: none"> <li>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</li> <li>Use search technologies effectively</li> <li>Use a variety of software to accomplish given goals</li> <li>Collect information</li> <li>Design and create content</li> <li>Present information</li> <li>Understanding web addresses</li> <li>What is a browser</li> <li>What is an ISP</li> <li>Who created the internet?</li> </ul>	<ul style="list-style-type: none"> <li>★ Become increasingly familiar with certain software (DL), being able to locate and run common programs from the desktop or program menu. Start using different programs like word processing, presenting, camera/photo albums, video recording and editing, audio recording and editing; and</li> </ul>
<b>Digital Literacy: Use of IT</b>  Embedding the required skills needed to live, learn, and work in a society where communication and access to information is increasingly through digital technologies, like internet platforms, social media, and mobile devices.  Using prior knowledge and with support start creating content that can be shared and used digitally.		<ul style="list-style-type: none"> <li>Use technology responsibly</li> <li>Identify a range of ways to report concerns about contact</li> </ul>	<ul style="list-style-type: none"> <li>★ Understand common icons (DL) like different browser icons and the icons that enable different job to be done (Settings cog, email letter, volume speaker, find magnifying glass or zoom magnifying glass)</li> <li>★ Understand how to stay safe (DL): name trusted adults, begin to follow SMART rules (see appendix), understand technology and software within their age restrictions</li> </ul>

			<p>★</p> <p>★</p> <p>★ Turn a range of devices on and off safely and log in independently</p> <p>★ Opening, using and saving commonly used programmes (Microsoft office tools).</p> <p>★ Manipulate font size, type and colour in a range of programs</p> <p>★ Be able to access and navigate different menu types</p> <p>★ Understand appropriate websites, games and apps which have age restrictions to ensure they are appropriate. (see appendix)</p> <p>★ Recognise common programs and/or APPS (YouTube, Netflix, Skype, FaceTime)</p> <p>★ Know who they're trusted adults are to talk to about concerns</p> <p>★ Understand and apply SMART rules when online</p> <p>★ Know how to seek help and support if concerned e.g. Childline/NSPCC (see appendix)</p>
<p><b>Digital literacy: E-safety</b></p> <p>Use technology safely and respectfully, keeping personal information private, identify where to go for help and support when there are concerns about content or contact from others online.</p> <p>Being responsible for what is said and done online and the impact it can have on others.</p>		<p><i>E-safety may not be taught as a discrete area but should be referred to whenever technology is used in all curriculum areas.</i></p>	

**Key Concepts, Knowledge, Vocabulary and Skills - Computer scientists: Year 4**

Key Concept	Contexts	Key Knowledge and Vocabulary	Skills: Techniques & Application
<b>Computational thinking:</b> Programs are made up of simple step-by-step instructions, these are called algorithms. This decision-making process includes decomposition, abstraction, pattern recognition, logical thinking, evaluation and generalisation. Practising these facilitates an understanding of how computers 'think' and is the basis of creating user friendly programs.		<ul style="list-style-type: none"> <li>Design and create programs that accomplish specific goals independently</li> <li>Use repetition in programs</li> <li>Control or simulate physical systems</li> <li>Use logical reasoning to detect, de-bug and correct errors in programs</li> </ul>	
<b>Computer systems:</b> The storage, manipulation and communication of data is conducted by a range of computer systems from large scale servers, which contain vast databases to photos stored on a memory card.  Hardware and software are involved in computer systems and they interact with the user for a particular purpose.		<ul style="list-style-type: none"> <li>Understand how computer networks can provide multiple services, such as the World Wide Web</li> <li>Appreciate how search results are selected</li> </ul>	
<b>Digital Literacy: Use of IT</b>  Embedding the required skills needed to live, learn, and work in a society where communication and access to information is increasingly through <b>digital</b> technologies like internet platforms, social media, and mobile devices.  Using prior knowledge and with support start creating content that can be shared and used digitally.		<ul style="list-style-type: none"> <li>Select a variety of software to accomplish given goals</li> <li>Select, use and combine internet services</li> <li>Analyse information</li> <li>Evaluate information</li> <li>Collect data</li> <li>Present data</li> <li>Understand the opportunities computer networks offer for communication</li> <li>Identify a range of ways to report concerns about content</li> </ul>	
<b>Digital literacy: E-safety</b>  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.  Being responsible for what they say and do online and the impact it can have on others.		<ul style="list-style-type: none"> <li>Recognise acceptable/unacceptable behaviour</li> </ul>	

**Key Concepts, Knowledge, Vocabulary and Skills - Computer scientists: Year 5**

Key Concept	Contexts	Key Knowledge and Vocabulary	Skills: Techniques & Application
<b>Computational thinking:</b> Programs are made up of simple step-by-step instructions, these are called algorithms. This decision-making process includes decomposition, abstraction, pattern recognition, logical thinking, evaluation and generalisation. Practising these facilitates an understanding of how computers 'think' and is the basis of creating user friendly programs.		<p>Decomposition</p> <ul style="list-style-type: none"> <li>Solve problems by decomposing them into smaller more manageable parts</li> </ul> <p>Abstraction</p> <ul style="list-style-type: none"> <li></li> </ul> <p>Pattern recognition</p> <p>Algorithms</p> <ul style="list-style-type: none"> <li>Use logical reasoning to explain how some simple algorithms work</li> <li>Use logical reasoning to detect and correct errors in algorithms</li> </ul> <p>Programming concepts</p> <ul style="list-style-type: none"> <li>Use selection in programs</li> <li>Work with variables</li> </ul>	<p>★ Independently select and competently use a range of digital devices (DL, CS)</p> <p>★ Understand computational thinking and programming concepts (CT).</p> <p>★ Use a range of software competently (DL),</p>
<b>Computer systems:</b> The storage, manipulation and communication of data is conducted by a range of computer systems from large scale servers, which contain vast databases to photos stored on a memory card.  Hardware and software are involved in computer systems and they interact with the user for a particular purpose.		<ul style="list-style-type: none"> <li>Combine a variety of software to accomplish given goals</li> <li>Select, use and combine software on a range of digital devices</li> <li>Analyse data</li> <li>Evaluate data</li> <li>Design and create systems</li> </ul>	<p>★ Understand, recognise and use common icons and keyboard shortcuts across a range of software packages (DL UoIT)</p> <p>★ Understand how to stay safe (DL ES):</p>
<b>Digital Literacy: Use of IT</b>  Embedding the required skills needed to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices.  Using prior knowledge and with support start creating content that can be shared and used digitally.		<ul style="list-style-type: none"> <li>Understand computer networks, including the internet</li> <li>Appreciate how search results are ranked</li> <li>Understand the opportunities computer networks offer for collaboration</li> <li>Be discerning in evaluating digital content</li> </ul>	<p>★ Understand rights and responsibilities of online behaviour(DL)</p>
<b>Digital literacy: E-safety</b>  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.  Being responsible for what they say and do online and the impact it can have on others.			



Key Concepts, Knowledge, Vocabulary and Skills - Computer scientists: Year 6

Key Concept	Contexts	Key Knowledge and Vocabulary	Skills: Techniques & Application
<b>Computational thinking:</b> Programs are made up of simple step-by-step instructions, these are called algorithms. This decision-making process includes decomposition, abstraction, pattern recognition, logical thinking, evaluation and generalisation. Practising these facilitates an understanding of how computers 'think' and is the basis of creating user friendly programs.	Computational thinking:  Algorithms: visually and textually representing algorithms  Decomposition of existing problems to design algorithms  Abstraction	Decomposition <ul style="list-style-type: none"> <li>Solve problems by decomposing them into smaller parts that are easier to solve</li> </ul> Abstraction <ul style="list-style-type: none"> <li>When problem solving, identify and filter out any unnecessary information and just focus on the information that needed to solve that problem</li> <li>I understand how important this is and how this helps me to design better more efficient solutions to the problem. I can see how this makes problem solving easier</li> <li>I understand how abstraction and decomposition are used together as part of my planning process before creating algorithms</li> </ul> Pattern recognition <ul style="list-style-type: none"> <li>I can identify similarities and differences in situations and can use these to solve problems and make programs more efficient</li> </ul> Algorithms <ul style="list-style-type: none"> <li>Know algorithms can be represented visually [flowcharts] or using instructions in simplified English (will develop into year 7 as Pseudocode)</li> <li>I understand why algorithms must be written without ambiguity and care and precision are necessary to avoid errors (ordered, specific, logical and understood by a third party/another person)</li> <li>Use logical reasoning to explain how some simple algorithms work</li> <li>Use logical reasoning to test, detect and correct errors in algorithms</li> </ul> Programming concepts <ul style="list-style-type: none"> <li>know that iteration is the repetition of a process such as a loop.</li> <li>Algorithms and programs can include selection (if) and repetition/iteration (loops)</li> <li>know that a variable is a named area in memory that store values to be used in a program</li> <li>give examples of variables in common programs – e.g. score in a game, lives in a game</li> </ul>	<p>Understand and apply computational thinking and programming concepts (CT):</p> <p>Understand and correctly use key terminology (decomposition, abstraction, pattern recognition and algorithm)</p> <p>Understand and APPLY the computational thinking concepts of decomposition, abstraction, pattern recognition and algorithms to problem solving.</p> <p><b>Algorithms:</b></p> <p>Be able to WRITE as simplified text a set of instructions (algorithm) to complete a task (any task, does not have to be a computer program. E.g. could be to make a cup of tea) that are SPECIFIC, ORDERED correctly, CLEAR/UNAMBIGUOUS for a third person</p> <p>Students should then understand and BEGIN to be able to convert their text algorithms into flowcharts OR be able understand and follow the instructions of a flowchart algorithm</p> <p><a href="#">Link to example</a> activity</p>

**Commented [NB1]:** more complicated than it needs to be and quite abstract even for a year 7. I will re-word and clarify procedures and sub-procedures

<p><b>Computer systems:</b> The storage, manipulation and communication of data is conducted by a range of computer systems from large scale servers, which contain vast databases to photos stored on a memory card.</p> <p>Hardware and software are involved in computer systems and they interact with the user for a particular purpose.</p>		<ul style="list-style-type: none"> <li>• Know that digital computers use binary to represent all data</li> <li>• Understand the difference between hardware and software</li> <li>• Understand computer networks, including the internet , and the benefits of using them</li> <li>• Begin to identify some network hardware</li> <li>• <del>Design and create systems</del></li> </ul>	<p>Use a range of digital devices and hardware (DL &amp; CS):</p> <p>Recognise and name a range of digital devices and hardware (CS)</p> <p>Begin to understand what data is stored and communicated by computers and how it is transmitted across a network</p>
<p><b>Digital Literacy: Use of IT</b></p> <p>Embedding the required skills needed to live, learn, and work in a society where communication and access to information is increasingly through <b>digital</b> technologies like internet platforms, social media, and mobile devices.</p>		<ul style="list-style-type: none"> <li>• Understand the opportunities computer networks offer for collaboration</li> <li>• Be discerning in evaluating digital content</li> <li>• Evaluate the appropriateness of digital devices, internet services and application software to achieve given goals.</li> <li>• Recognise issues surrounding the application of information technology beyond school.</li> <li>• Combine a variety of software to accomplish given goals</li> <li>• Select, use and combine software on a range of digital devices</li> <li>• Analyse data</li> <li>• Evaluate data</li> <li>• Appreciate how search results are ranked (first does not mean best)</li> </ul>	<p>Use a range of software (DL):</p> <p>Understand common icons and shortcuts (DL): Use of common keyboard shortcuts (e.g. ctrl+s, ctrl+c, ctrl+v, ctrl+x, ctrl+a) Recognition and use</p>

**Commented [NB2]:** doesn't mean anything without clarification of what system you are being expected to make? Not sure what's wanted here

Using prior knowledge and with support start creating content that can be shared and used digitally.			
<b>Digital literacy: E-safety</b>  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.  Being responsible for what they say and do online and the impact it can have on others.		use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Understand how to stay safe (DL):

#### References:

- DfE National Primary Curriculum for Computing: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/239033/PRIMARY\\_national\\_curriculum\\_-\\_Computing.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/239033/PRIMARY_national_curriculum_-_Computing.pdf)
- DfE National Primary Curriculum for E-safety: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/811796/Teaching\\_online\\_safety\\_in\\_school.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811796/Teaching_online_safety_in_school.pdf)
- Barefoot computing: <https://www.barefootcomputing.org/>
- Glossary of Computing term, pg 3-5 <https://icompute-uk.com/ewExternalFiles/iCompute-Glossary.pdf>
- Jeremy Kubica – Computational Fairy Tales (Permission has been given to use as much of the book as needed).
- Computing at School (<https://creativecommons.org/licenses/by-sa/3.0/>)
- Programming poster for classrooms: [https://www.barefootcomputing.org/docs/default-source/october-2019-resource-downloads/jargon-buster-poster\\_english.pdf?sfvrsn=4eba91ea\\_2](https://www.barefootcomputing.org/docs/default-source/october-2019-resource-downloads/jargon-buster-poster_english.pdf?sfvrsn=4eba91ea_2)

# Appendix

Useful links			
Computational Thinking	Computer Systems	Digital Literacy: Use of IT	Digital Literacy: E-safety
<a href="https://www.scratchjr.org/">https://www.scratchjr.org/</a> <a href="https://www.barefootcomputing.org/primary-computing-resources">https://www.barefootcomputing.org/primary-computing-resources</a> What is coding? <a href="https://www.bbc.co.uk/bitesize/clips/ztqxhyc">https://www.bbc.co.uk/bitesize/clips/ztqxhyc</a> <a href="https://scratch.mit.edu/studios/3831769/">https://scratch.mit.edu/studios/3831769/</a> <a href="https://www.stem.org.uk/resources/elibrary/resource/35832/scratch-beginners">https://www.stem.org.uk/resources/elibrary/resource/35832/scratch-beginners</a> <a href="https://www.twinkl.co.uk/resource/tp-i-0114-planit-computing-year-1-programming-with-scratchjr-unit-pack">https://www.twinkl.co.uk/resource/tp-i-0114-planit-computing-year-1-programming-with-scratchjr-unit-pack</a> <a href="https://www.i2e.com/i2code/">https://www.i2e.com/i2code/</a> <a href="https://www.twinkl.co.uk/resource/tp-i-005-planit-computing-year-2-programming-turtle-logo-and-scratch-unit-pack">https://www.twinkl.co.uk/resource/tp-i-005-planit-computing-year-2-programming-turtle-logo-and-scratch-unit-pack</a> STEM learning projects KS1: <a href="https://www.stem.org.uk/resources/collection/465446/key-stage-1">https://www.stem.org.uk/resources/collection/465446/key-stage-1</a> BBC bitesize ks3 computing <a href="https://www.bbc.co.uk/bitesize/subjects/zvc9q6f">https://www.bbc.co.uk/bitesize/subjects/zvc9q6f</a> <a href="https://www.stem.org.uk/resources/elibrary/resource/36026/bee-bots-123-programming-activity">https://www.stem.org.uk/resources/elibrary/resource/36026/bee-bots-123-programming-activity</a> <a href="https://www.twinkl.co.uk/resources/home-key-stage-1-subjects/ict/ict-bee-bot-jackets">https://www.twinkl.co.uk/resources/home-key-stage-1-subjects/ict/ict-bee-bot-jackets</a> Y1 & 2 Beebots: <a href="http://code-it.co.uk/bee-bot">http://code-it.co.uk/bee-bot</a>	<a href="https://www.bbc.co.uk/bitesize/subjects/zvnrq6f">https://www.bbc.co.uk/bitesize/subjects/zvnrq6f</a> bbc bitesize ks2 has content on all 4 strands	<a href="https://www.bbc.co.uk/bitesize/topics/zf2f9j6">https://www.bbc.co.uk/bitesize/topics/zf2f9j6</a>	<a href="https://www.saferinternetday.org/">https://www.saferinternetday.org/</a> <a href="https://www.net-aware.org.uk/">https://www.net-aware.org.uk/</a> <a href="https://beinternetlegends.withgoogle.com/en_uk">https://beinternetlegends.withgoogle.com/en_uk</a> <a href="https://www.childline.org.uk/">https://www.childline.org.uk/</a> <a href="https://www.nspcc.org.uk/">https://www.nspcc.org.uk/</a> Ditto newsletter: <a href="https://www.esafety-adviser.com/latest-newsletter/">https://www.esafety-adviser.com/latest-newsletter/</a> <a href="https://www.common-sense-media.org/">https://www.common-sense-media.org/</a> <a href="https://www.internetmatters.org/">https://www.internetmatters.org/</a> <a href="https://www.kiddle.co/">https://www.kiddle.co/</a> <a href="https://swiggle.org.uk/">https://swiggle.org.uk/</a> <a href="https://www.childnet.com/resources/be-smart-online">https://www.childnet.com/resources/be-smart-online</a> <a href="http://www.thinkuknow.co.uk">www.thinkuknow.co.uk</a>

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#### Glossary extras

Key definitions add to glossary not here:

Algorithm – a sequence of specific, ordered instructions to complete a task

Decomposition – breaking down a problem into smaller, easier to solve parts

Abstraction – removing or filtering out all unnecessary information in order to focus on what we NEED to solve a problem

Pattern recognition – self explanatory

Variable – names location in memory where values can be stored for use in a program