



'Life in all its fullness'
John 10:10

Computing at Christ Church School

At Christ Church School we recognise that we are living in an increasingly digital world where a wealth of software, tools and technologies are used to communicate, collaborate, express ideas and create digital content. Through the provision of a high-quality computing curriculum we will equip pupils with the computational thinking and creativity that they need to benefit from these technologies safely.

Our curriculum has been split into 3 strands: The Online World, Digital Literacy and Algorithms and Programming.

The Online World



Children will learn to become responsible, competent, confident and creative users of information and communication technology. This begins with our school learning platform, DB Primary, and extends to wider forms of communication, including instant messaging and some of the popular social networks that they may begin to use as they get older. They will learn rules of internet safety and etiquette so that they can get the most out of online communication and collaboration, whilst protecting themselves and their personal and private information. They will know what to do if something goes wrong and understand the increasing responsibilities they have in keeping themselves safe and protected online as they approach secondary school and beyond.

Digital Literacy



Children build on the digital literacy skills used for communication in The Online World. They will learn to use technology purposefully to create, organise, store, manipulate and retrieve digital content. This includes undertaking online research, critically evaluating the information they find online and communicating their knowledge and ideas digitally using a range of software and technologies. These skills are essential in the modern world, where information, services, communication and even jobs are often dependent on digital literacy.

Algorithms and Programming



Children will be taught the principles of computation, how digital systems work, and how to put this knowledge to use through programming. They will create and refine algorithms to control external devices and on-screen robots with increasing complexity. Through learning to code, children will use skills such as critical thinking, problem-solving, creativity and resilience, and will be equipped to use information technology in a range of contexts. These skills are invaluable for their future work prospects and as active participants in a digital world.

SEND

We recognise that some children with SEND may be more vulnerable to online bullying and manipulation. It is important that all children can access and understand the e-safety messages that run throughout computing. Some children may require additional practice to implement e-safety rules. E-safety rules should be permanently displayed around school with pictorial cues as well as words to support recall and understanding. Instructions for tasks are given in small steps, with adults modelling the steps on the whiteboard to support memory and understanding. Children with SEND may have additional adult support in the classroom or partner up with a buddy to complete tasks together.

Curriculum Links

PSHE: Me and My Relationships (Autumn 1, Spring 2), Keeping Myself Safe (Spring 1) apply both in person and online.

Art: Digital Art (Year B, Summer)

Links with English – writing for different purposes and foundation subjects – opportunities for research and presenting information.



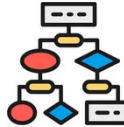
Maths, science and foundation subjects – presenting data, spreadsheets



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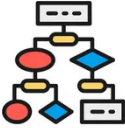

	Topic 1	Topic 2	Topic 3
Topic	<p>The Online World</p> 	<p>Digital Literacy</p> 	<p>Algorithms and Programming</p> 
National Curriculum	<p>Key stage 1</p> <ul style="list-style-type: none"> Recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal 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>Key Stage 2</p> <ul style="list-style-type: none"> 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<p>Key stage 1</p> <ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content <p>Key Stage 2</p> <ul style="list-style-type: none"> Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 	<p>Key stage 1</p> <ul style="list-style-type: none"> Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs <p>Key Stage 2</p> <ul style="list-style-type: none"> 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 Use logical reasoning to explain how some
Resources	<p>Primary resources used for Medium Term Planning</p> <p>DB Primary Project Evolve Common Sense Media Childnet</p>	<p>Primary resources used for Medium Term Planning</p> <p>Switched On Computing (Rising Stars) Microsoft Office National Centre for Computing Education (DfE funded) Project Evolve</p>	<p>Primary resources used for Medium Term Planning</p> <p>Switched On Computing (Rising Stars) Learning to Code (Rising Stars) Code IT – Barefoot Computing</p>
Whole School	<p>Digital Leaders training</p> <p>Parent Event – DB Primary</p>	<p>Safer Internet Day</p> <p>Parent Event – Internet Safety</p>	



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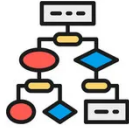
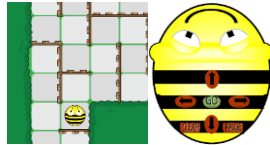
1	Topic 1	Topic 2	Topic 3
Topic	<p>The Online World</p> 	<p>Digital Literacy</p> 	<p>Algorithms and Programming</p> 
Class 1 – Overview	<p>What is personal information? Log on to computers and DB Primary using a username and password. Begin to explore DB Primary. Open and use an app. Send and receive emails on DB Primary.</p>	<p>Conduct a simple Google search for an image. Create digital images and videos. Store and retrieve digital content.</p>	<p>Create a series of instructions for another person to follow. Create a journey for a programmable toy.</p>
E-Safety	<p>Internet Safety Rules. Keeping passwords safe. Keeping personal information private. What to do and who to tell if I am worried or upset by something I see online.</p>	<p>Know when and how to tell an adult if I see something that is inappropriate or worrying. Permission for images. Where to store them.</p>	
Vocabulary	<p>E-Safety Email Login / logging on Inbox Username / Password Whistle Search engine Alert Website / App Personal information</p>	<p>Search engine / Google Inappropriate Save / store File / file name Retrieve Permission</p>	<p>Instructions Series Sequence Algorithm Control / program</p>
Links & application	<p>Retrieval practice of safety rules – Safer Internet Day and ongoing during online / digital activities. Regular access to DB Primary and use of apps linked to curriculum learning. Cross curricular links with online safety in PSHE, in particular: Me and My Relationships (Autumn 1, Spring 2), Keeping Myself Safe (Spring 1) apply both in person and online.</p>		



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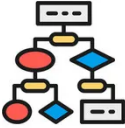

2	Topic 1	Topic 2	Topic 3														
Topic	<p>The Online World</p> 	<p>Digital Literacy</p> 	<p>Algorithms and Programming</p> 														
Class 2 – Overview	<p>Online and Offline Send, receive and reply to emails on DB Primary. Send and open email attachments. Show respect online. 'Blowing the whistle'.</p>	<p>Conduct Google searches linked to a curriculum topic. Using key words and phrases. Identifying trusted sites. Bookmarking. Create, edit and store digital content using Microsoft Word. Change font size and colour.</p>	<p>Create, test and amend a range of instructions (eg direction, turns, angles) to complete a planned journey for a programmable toy.</p>														
E-Safety	<p>Internet Safety Rules. Not sharing your own, or anyone else's personal information, including images online. Only open an email from a known source. How to alert somebody if I see, send or receive something that worries me.</p>	<p>Not all information on the internet is true. Pop ups, advertising and subscribing. Know when and how to tell an adult if I see something that is inappropriate or worrying. Saving work securely.</p>															
Vocabulary	<table border="0"> <tr> <td>Protect</td> <td>Emails</td> </tr> <tr> <td>Secure</td> <td>Attachments</td> </tr> <tr> <td>Pop-ups</td> <td>Respectful</td> </tr> <tr> <td>Advertising</td> <td>Permission</td> </tr> <tr> <td>Online</td> <td>Consent</td> </tr> <tr> <td>Offline</td> <td>Forums</td> </tr> <tr> <td>Internet</td> <td></td> </tr> </table>	Protect	Emails	Secure	Attachments	Pop-ups	Respectful	Advertising	Permission	Online	Consent	Offline	Forums	Internet		<p>Search engine / Google Key words Trusted False / myth / misinformation Bookmarking Font size</p>	<p>Algorithms Direction, turn, angles, steps Precise Predict Errors De-bug Digital devices</p>
Protect	Emails																
Secure	Attachments																
Pop-ups	Respectful																
Advertising	Permission																
Online	Consent																
Offline	Forums																
Internet																	
Links & application	<p>Retrieval practice of safety rules – Safer Internet Day and ongoing during online / digital activities. Ongoing opportunities to use DB Primary emails. Plan for further opportunities to research further curriculum topics online and to record / save their work on the computer. Cross curricular links with online safety in PSHE, in particular: Me and My Relationships (Autumn 1, Spring 2), Keeping Myself Safe (Spring 1) apply both in person and online.</p>																



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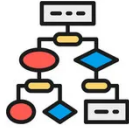
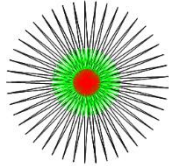
3	Topic 1	Topic 2	Topic 3																								
Topic	The Online World 	Digital Literacy 	Algorithms and Programming 																								
Class 3 – Overview	Computer networks – individual login to school network. Create powerful passwords. Look at digital trails. Send emails with attachments. Reply to a forum.	Further refine search skills linked to a curriculum topic, using key words and trusted sites. Understand information on websites can be fact, fiction or opinion. Understand information on websites can influence people. Create and store digital content using Microsoft Word to include words and pictures. Select an appropriate font.	Write and test simple programs to control a sprite. Set specific goals, test and debug. Understand inputs and outputs. Suggest and make improvements to programs.																								
E-Safety	E-Safety SMART rules. Understand what makes a good password and how passwords protect information, accounts and devices. Only open an email from a known source. Know who can see and comment on a forum. Identifying information, personal information and privacy settings.	Distinguish between fact, fiction and opinion on the internet. How this information can be used to influence us. Understand the need for caution when using an internet search for images and what to do if I find an unsuitable image.																									
Vocabulary	<table border="0"> <tr> <td>Forum</td> <td>Blog</td> </tr> <tr> <td>Comment</td> <td>Public</td> </tr> <tr> <td>Permanent</td> <td>Safe</td> </tr> <tr> <td>Privacy settings</td> <td>Responsible</td> </tr> <tr> <td>Identifying information</td> <td>Respectful</td> </tr> </table>	Forum	Blog	Comment	Public	Permanent	Safe	Privacy settings	Responsible	Identifying information	Respectful	Fact Fiction Opinion Influence Caution Suitable / unsuitable	<table border="0"> <tr> <td>Coding</td> <td>Inputs</td> </tr> <tr> <td>Programming</td> <td>Outputs</td> </tr> <tr> <td>Algorithm</td> <td></td> </tr> <tr> <td>Predict</td> <td></td> </tr> <tr> <td>Debug</td> <td></td> </tr> <tr> <td>Sprite</td> <td></td> </tr> <tr> <td>Solutions</td> <td></td> </tr> </table>	Coding	Inputs	Programming	Outputs	Algorithm		Predict		Debug		Sprite		Solutions	
Forum	Blog																										
Comment	Public																										
Permanent	Safe																										
Privacy settings	Responsible																										
Identifying information	Respectful																										
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Solutions																											
Links & application	Retrieval practice of safety rules – Safer Internet Day and ongoing during online / digital activities. Ongoing opportunities to use DB Primary emails and forums. Plan for further opportunities to research further curriculum topics online and to record / save their work on the computer, including text and images. Cross curricular links with online safety in PSHE, in particular: Me and My Relationships (Autumn 1, Spring 2), Keeping Myself Safe (Spring 1) apply both in person and online.																										



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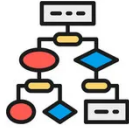

4	Topic 1	Topic 2	Topic 3														
Topic	<p align="center">The Online World</p> 	<p align="center">Digital Literacy</p> 	<p align="center">Algorithms and Programming</p> 														
Class 4 – Overview	<p>Computer networks – school and world wide web. Start a blog. Know that this can be continued out of school using login details. Know what is suitable content for public viewing and what is personal/private. Digital footprints. Playing games online. Subscribing and in app purchasing. Knowing and understanding age restrictions and where to get this information.</p>	<p>Undertake online research. Critically evaluate and analyse online information and data. Critically evaluate and analyse online sources. Create and store digital information using PowerPoint. Use a range of images, fonts and transitions. Present this to an audience. Create and edit a podcast.</p>	<p>Make predictions and experiment with variables to control on-screen robots. Design algorithms that use repetition and forms of input and output. Predict, test and debug.</p>														
E-Safety	<p>Know what to do if you suspect someone has used your account. Know who it is ok to talk to online. What to do if you are upset by an interaction online. Trusted adults and how you can approach them. Understanding the reasons why age restrictions are in place. Recognise that some websites and/or pop-ups may have commercial interests.</p>	<p>Know that not all information online is fact. Know that some information may be misleading (misinformation) and some may be deliberately misleading (disinformation). Understand how this may mislead or influence people. Know some ways to check whether information is true.</p>															
Vocabulary	<table border="0"> <tr> <td>Blog</td> <td>Content</td> </tr> <tr> <td>Personal/private</td> <td>Public</td> </tr> <tr> <td>Digital footprint</td> <td>Permanent</td> </tr> <tr> <td>Gaming</td> <td>Subscribing</td> </tr> <tr> <td>In-app purchasing</td> <td>Age restrictions</td> </tr> <tr> <td>Hacking</td> <td>Illegal</td> </tr> <tr> <td>Cyberbullying</td> <td>Networks</td> </tr> </table>	Blog	Content	Personal/private	Public	Digital footprint	Permanent	Gaming	Subscribing	In-app purchasing	Age restrictions	Hacking	Illegal	Cyberbullying	Networks	<p>Presentation Transition Software Data Analyse Evaluate Source</p>	<p>Variables Input Output Repetition</p>
Blog	Content																
Personal/private	Public																
Digital footprint	Permanent																
Gaming	Subscribing																
In-app purchasing	Age restrictions																
Hacking	Illegal																
Cyberbullying	Networks																
Links & application	<p>Retrieval practice of safety rules – Safer Internet Day and ongoing during online / digital activities. Ongoing opportunities to use DB Primary emails, forums and blogs. Plan for further opportunities to research and present in curriculum topics, including on Word and PowerPoint and Excel for recording data. Cross curricular links with online safety in PSHE, in particular: Me and My Relationships (Autumn 1, Spring 2), Keeping Myself Safe (Spring 1) apply both in person and online.</p>																



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5	Topic 1	Topic 2	Topic 3
Topic	The Online World 	Digital Literacy 	Algorithms and Programming 
Class 5 – Overview	Computer networks and social networks. Online gaming, social media and messaging apps. Algorithms and echo chambers. Cyberbullying and what to do. Taking personal risks online. Scams and Phishing. Balancing time on and offline - understanding the opportunities for communication and collaboration as well as the impact of too much time spent online.	Research and critical thinking. Understand how searches are ranked. Citing sources. Plan and create a webpage. Create and edit a documentary film.	Design solutions by breaking a problem up. I can use logical reasoning to detect errors in algorithms and explain how an algorithm works. Use selection and work with variables in programs.
E-Safety	Understand the positive and negative impact of online communication. Know that past views / engagement can impact on things that you see and how this can influence people. Understand how online identity may differ from real life identity. Understanding the relationships between online habits and mental health.	Understand how past search history can impact on search results. Recognise that information on the internet may not be accurate or reliable and may use bias, manipulation or persuasion. Understand that consent must be given to publish other people's pictures/videos/voices/quotes that you have captured.	
Vocabulary	Social Media Likes Cyberbullying Filters Scams Phishing Views Engagement	Citing Sources Creative rights Intellectual property Plagiarism	Variables Evaluate Debug Algorithm Programming
Links & application	Retrieval practice of safety rules – Safer Internet Day and ongoing during online / digital activities. Ongoing opportunities to use DB Primary emails, forums and blogs. Plan for further opportunities to research and present in curriculum topics, including on Word and PowerPoint and Excel for recording data. Cross curricular links with online safety in PSHE, in particular: Me and My Relationships (Autumn 1, Spring 2), Keeping Myself Safe (Spring 1) apply both in person and online.		