

**Balcombe C of E Primary School**  
**Computing Progression**

Updated March 2022

	Lake	Coombe	Forest	Spring	Mill
<b>Computing Systems and Networks</b>		<ul style="list-style-type: none"> <li>Develop understanding of technology and how it can help us.</li> <li>Start to become familiar with the different components of a computer by developing keyboard and mouse skills.</li> <li>Consider how to use technology responsibly.</li> </ul>	<ul style="list-style-type: none"> <li>Identify and compare digital and non-digital devices, input and output devices.</li> <li>Explain how digital devices function.</li> <li>Explore how digital devices can be connected and recognise the physical components of a network.</li> </ul>	<ul style="list-style-type: none"> <li>Apply knowledge and understanding of networks and appreciate the internet as a network of networks which need to be kept secure</li> <li>Learn that the World Wide Web is part of the internet, and be given opportunities to explore for themselves in order to learn about who owns content and what they can access, add and create.</li> <li>Evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.</li> </ul>	<ul style="list-style-type: none"> <li>Develop understanding of computer systems and how information is transferred between systems and devices.</li> <li>Explain the input, output, and process aspects of a variety of different real-world systems.</li> <li>Develop their skills in working together collaboratively online.</li> </ul>
<b>Creating Media</b>	<b>PAINTZ</b> <ul style="list-style-type: none"> <li>Explore the world of digital art.</li> <li>Choose and use a variety of paint tools to create a picture – lines, shapes, dots, colour, paintbrush, fill etc.</li> <li>Create own paintings on-screen, getting inspiration from a range of other artists.</li> <li>Consider preferences when painting with, and without, the use of digital devices.</li> </ul>	<b>GOOGLE DOCS/ MS WORD</b> <ul style="list-style-type: none"> <li>Understand the various aspects of using a computer to create/manipulate text.</li> <li>Use a keyboard and mouse to enter and remove text.</li> <li>Consider how to change the look of text &amp; justify reasoning in making these changes.</li> <li>Consider the differences between using a computer to create text &amp; writing text on paper. Explain which method is preferred &amp; reasons for choosing this.</li> </ul> <b>DIGITAL CAMERA / PIX LR</b> <ul style="list-style-type: none"> <li>Recognise that different devices can be used to capture photographs and gain experience capturing, editing, and improving photos.</li> <li>Recognise that images they see may not be real.</li> </ul>	<b>GOOGLE DOCS/ MS WORD</b> <ul style="list-style-type: none"> <li>Understand that text and images can be used to communicate messages.</li> <li>Make careful choices of font size, colour and type to edit and improve documents.</li> <li>Begin to understand how 'templates', 'orientation', and 'placeholders' can support them in making their own template.</li> <li>Add text and images to create pieces of work using desktop publishing software.</li> <li>Think carefully about the purpose of page layout and evaluate how and why desktop publishing is used in the real world.</li> </ul> <b>IPADS / IMOTION</b> <ul style="list-style-type: none"> <li>Use a range of techniques to create a stop-frame animation.</li> <li>Apply skills to create a story-based animation adding other types of media such as music and text.</li> </ul>	<b>AUDACITY</b> <ul style="list-style-type: none"> <li>Examine devices capable of recording digital audio, which will include identifying the input device (microphone) and output devices (speaker or headphones) if available.</li> <li>Discuss ownership of digital audio and the copyright implications of duplicating the work of others.</li> <li>Record audio, including editing work, adding multiple tracks, and opening and saving audio files.</li> <li>Evaluate work and give feedback to peers.</li> </ul> <b>PAINT.NET</b> <ul style="list-style-type: none"> <li>Develop understanding of how digital images can be changed and edited, and how they can then be resaved and reused.</li> <li>Consider the impact that editing images can have, and evaluate the effectiveness of their choices.</li> </ul>	<b>GOOGLE DRAWINGS</b> <ul style="list-style-type: none"> <li>Understand that vector images are made up of shapes.</li> <li>Use different drawing tools and learn how images are created in layers.</li> <li>Explore the ways in which images can be grouped to support them in creating more complex pieces of work.</li> </ul> <b>IPADS/MS MOVIE MAKER</b> <ul style="list-style-type: none"> <li>Understand the language and develop the skills of capturing, editing, and manipulating video.</li> <li>Be able to use a green screen.</li> <li>Develop the skills required to plan, record, edit, and finalise a video.</li> </ul>

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<b>Programming</b>	<p>BEEBOTS</p> <ul style="list-style-type: none"> <li>• Introduction to early programming concepts.</li> <li>• Explore using individual commands, both with other learners and as part of a computer program.</li> <li>• Identify what each floor robot command does and use that knowledge to start predicting the outcome of programs.</li> <li>• Develop the early stages of program design through the introduction of algorithms.</li> </ul>	<p>BEEBOTS</p> <ul style="list-style-type: none"> <li>• Develop the early stages of program design through the introduction of algorithms.</li> <li>• Use given commands in different orders to investigate how the order affects the outcome.</li> <li>• Design a simple algorithm.</li> <li>• Create and debug a program that I have written.</li> </ul> <p>SCRATCH JUNIOR</p> <ul style="list-style-type: none"> <li>• Begin to program on-screen through Scratch Jr.</li> <li>• Explore the way a project looks by investigating sprites and backgrounds.</li> <li>• Use programming blocks to use, modify, and create programs.</li> </ul>	<p>SCRATCH</p> <ul style="list-style-type: none"> <li>• Explore the concept of sequencing in programming and create a sequence of connected commands, debugging as appropriate.</li> <li>• Select motion, sound, and event blocks to create own programs, featuring sequences.</li> <li>• Make a representation of a piano on Scratch implementing my algorithm as code.</li> </ul> <p>SCRATCH</p> <ul style="list-style-type: none"> <li>• Explore the links between events and actions and consolidating prior learning relating to sequencing.</li> <li>• Adapt a program to a new context and develop programs by adding new features.</li> <li>• Identify and fix bugs within my programs.</li> <li>• Design and code own maze tracing program, debugging as appropriate.</li> </ul>	<p>TURTLE ACADEMY/LOGO</p> <ul style="list-style-type: none"> <li>• Explore repetition and loops within programming.</li> <li>• Create programs by planning, modifying, and testing commands to create shapes and patterns using a text-based language.</li> <li>• Create a program that uses count-controlled loops to produce a given outcome, developing it by debugging.</li> </ul> <p>SCRATCH</p> <ul style="list-style-type: none"> <li>• Discover similarities between two programming environments.</li> <li>• Look at the difference between count-controlled and infinite loops, and use knowledge to modify existing animations and games using repetition.</li> <li>• Design and create a game which uses repetition, applying stages of programming design throughout.</li> </ul>	<p>CRUMBLE CONTROLLER</p> <ul style="list-style-type: none"> <li>• Use physical computing to explore the concept of selection in programming.</li> <li>• Control a simple circuit connected to a computer.</li> <li>• Understand conditions as a means of controlling the flow of actions.</li> <li>• Make use of their knowledge of repetition and conditions when introduced to the concept of selection (through the if, then structure).</li> <li>• Design a physical project that includes selection and create a program that controls that project.</li> </ul> <p>SCRATCH</p> <ul style="list-style-type: none"> <li>• Further develop knowledge of 'selection'.</li> <li>• Learn how to write programs that ask questions and use selection to control the outcomes based on the answers given.</li> <li>• Design, create and evaluate a program that uses selection.</li> </ul>
<b>Data Handling</b>	<ul style="list-style-type: none"> <li>• Put objects into groups and label them.</li> <li>• Demonstrate they can count a small number of objects, before and after the objects are grouped.</li> <li>• Begin to demonstrate ability to sort objects into different groups, based on the properties they choose.</li> <li>• Sort objects into different groups to answer questions about data.</li> </ul>	<p>J2E PICTOGRAM</p> <ul style="list-style-type: none"> <li>• Begin to understand what the term data means and how data can be collected in the form of a tally chart.</li> <li>• Learn the term 'attribute' and use this to help them organise data.</li> <li>• Present data in the form of pictograms and block diagrams.</li> <li>• Use data presented to answer questions.</li> </ul>	<p>J2E BRANCH</p> <ul style="list-style-type: none"> <li>• Develop understanding of what a branching database is and how to create one on screen.</li> <li>• Understand what attributes are and how to use them to sort groups of objects by using yes/no questions.</li> <li>• Create physical and on-screen branching databases.</li> <li>• Evaluate the effectiveness of branching databases and decide what types of data should be presented as a branching database</li> </ul>	<p>DATA LOGGERS/GOOGLE SCIENCE JOURNAL</p> <ul style="list-style-type: none"> <li>• Consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment.</li> <li>• Collect data as well as access data captured over long periods of time. Look at data points, data sets, and logging intervals.</li> <li>• Use a computer to review and analyse data.</li> <li>• Pose questions and use data loggers to automatically collect the data needed to answer them.</li> </ul>	<p>J2E DATABASE</p> <ul style="list-style-type: none"> <li>• Look at how a flat-file database can be used to organise data in records.</li> <li>• Use tools within a database to order and answer questions about data.</li> <li>• Create graphs and charts from data to help solve problems.</li> <li>• Use a real-life database to answer a question, and present their work to others.</li> </ul>

<b>Online Safety</b>  <b>Education for a Connected World</b>  <b>Project Evolve</b>	Self-Image & Identity	Lake	Coombe	Forest	Spring	Mill
			<b>COMPUTING - Autumn Year B &amp; PSHE Spring Year B</b> <ul style="list-style-type: none"> <li>I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.</li> <li>If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help.</li> <li>I can explain how other people may look and act differently online and offline.</li> </ul>		<b>COMPUTING - Spring Year A, PSHE Autumn Year A</b> <ul style="list-style-type: none"> <li>I can describe ways in which people might make themselves look different online.</li> <li>I can explain what is meant by the term 'identity' and how my online identity can be different to my offline identity.</li> <li>I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.</li> <li>I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.</li> </ul>	<b>PSHE - Spring Year A, Spring Year B</b> <ul style="list-style-type: none"> <li>I can explain how identity online can be copied, modified or altered.</li> <li>I can identify and critically evaluate online content relating to gender, race, religion, disability, culture, and other groups, and explain why it is important to challenge and reject inappropriate representations online.</li> </ul>
	Online Relationships		<b>PSHE - Autumn Year B</b> <ul style="list-style-type: none"> <li>I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).</li> <li>I can identify who can help me if something happens online without my consent.</li> <li>I can explain why things one person finds funny or sad online may not always be seen in the same way by others.</li> </ul>		<b>PSHE - Autumn Year A PSHE - Spring Year B</b> <ul style="list-style-type: none"> <li>I can explain what it means to 'know someone' online and why this might be different from knowing someone offline.</li> <li>I can explain how someone can get help if they are having problems and identify when to tell a trusted adult.</li> <li>I can demonstrate how to support others (including those having difficulties) online.</li> <li>I can describe how to be kind &amp; show respect for others online including the importance of respecting boundaries regarding what is shared about them online &amp; how to support them if others do not.</li> <li>I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/our fault.</li> </ul>	<b>COMPUTING - Autumn Year B</b> <ul style="list-style-type: none"> <li>I can explain how sharing something online may have an impact either positively or negatively.</li> <li>I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not.</li> <li>I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.</li> <li>I can explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.</li> </ul>

<b>Online Safety</b>  <b>Education for a Connected World</b>  <b>Project Evolve</b>	Online Reputation	Lake	Coombe	Forest	Spring	Mill
	Online Bullying		<b>PSHE – Summer Year B</b> <ul style="list-style-type: none"> <li>I can describe ways that some people can be unkind online and I can offer examples of how this can make others feel.</li> <li>I can describe how to behave online in ways that do not upset others and can give examples.</li> <li>I can explain what bullying is, how people may bully others and how bullying can make someone feel.</li> <li>I can explain why anyone who experiences bullying is not to blame.</li> <li>I can talk about how anyone experiencing bullying can get help.</li> </ul>	<b>PSHE – Autumn Year A</b> <ul style="list-style-type: none"> <li>I can describe appropriate ways to behave towards other people online and why this is important.</li> <li>I can give examples of how bullying behaviour could appear online and how someone can get support.</li> <li>I can recognise when someone is upset, hurt or angry online.</li> <li>I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).</li> <li>I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat).</li> </ul>	<b>PSHE – Spring Year B</b> <ul style="list-style-type: none"> <li>I can explain how to block abusive users.</li> <li>I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).</li> <li>I can identify a range of ways to report concerns and access support in school and at home about online bullying.</li> </ul>	

<p>Online Safety</p> <p>Education for a Connected World</p> <p>Project Evolve</p>	Managing Online Information	Lake	Coombe	Forest	Spring	Mill
			<p><b>PSHE – Spring Year B</b></p> <ul style="list-style-type: none"> <li>I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke.</li> <li>I know how to get help from a <b>trusted adult</b> if we see content that makes us feel sad, uncomfortable worried or frightened.</li> <li>I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.</li> <li>I can explain why some information I find online may not be real or true.</li> </ul>	<p><b>COMPUTING – Spring Year A, Autumn Year B</b></p> <ul style="list-style-type: none"> <li>I can demonstrate how to use key phrases in search engines to gather accurate information online.</li> <li>I can explain how the internet can be used to sell &amp; buy things.</li> <li>I can explain the difference between a 'belief', an 'opinion' and a 'fact' &amp; can give examples of how &amp; where they might be shared online, e.g. in videos, memes, posts, news stories etc.</li> <li>I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed).</li> <li>I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.</li> </ul>	<p><b>COMPUTING – Autumn Year A</b></p> <ul style="list-style-type: none"> <li>I can analyse information to make a judgement about probable accuracy, and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.</li> <li>I can explain what is meant by fake news, e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.</li> <li>I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, or influencers).</li> <li>I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.</li> </ul>	<p><b>COMPUTING – Autumn Year B</b></p> <p><b>PSHE – Spring Year A, Spring Year B</b></p> <ul style="list-style-type: none"> <li>I can explain what is meant by being 'sceptical' and I can give examples of when and why it is important to be sceptical.</li> <li>I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.</li> <li>I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence.</li> <li>I can explain how search engines work and how results are selected and ranked.</li> <li>I can explain how to use search technologies effectively.</li> <li>I can describe how some online information can be opinion and can offer examples.</li> <li>I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.</li> <li>I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news).</li> <li>I understand the concept of persuasive design and how it can be used to influence peoples' choices.</li> </ul>

<b>Online Safety</b>  <b>Education for a Connected World</b>  <b>Project Evolve</b>	Health, Well-being & Lifestyle	Lake	Coombe	Forest	Spring	Mill
			<b>COMPUTING - Autumn Year A and PSHE Spring Year A</b> <ul style="list-style-type: none"> <li>I can explain rules to keep myself safe when using technology both in and beyond the home.</li> <li>I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.</li> <li>I can say how those rules / guides can help anyone accessing online technologies.</li> </ul>	<b>PSHE - Summer Year A</b> <ul style="list-style-type: none"> <li>I can explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships. I can give some examples of positive &amp; negative activities where it is easy to spend a lot of time engaged (e.g. homework, games, films, videos).</li> <li>I can explain why some online activities have age restrictions, why it is important to follow them &amp; know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).</li> </ul>		<b>PSHE - Autumn Year A, Autumn Year B</b> <ul style="list-style-type: none"> <li>I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.</li> <li>I can describe some strategies, tips or advice to promote health and well-being with regards to technology.</li> <li>I can access and action different strategies to limit the impact of technology on health e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise.</li> <li>I can recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals.</li> </ul>
	Privacy & Security		<b>COMPUTING - Spring Year A &amp; Summer Year B</b> <ul style="list-style-type: none"> <li>I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names).</li> <li>I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.</li> <li>I can explain how passwords can be used to protect information, accounts and devices.</li> </ul>	<b>PSHE - Spring Year B</b> <ul style="list-style-type: none"> <li>I can describe simple strategies for creating and keeping passwords private.</li> <li>I can give reasons why someone should only share information with people they choose to and can trust.</li> <li>I can explain that if they are not sure or feel pressured then they should tell a trusted adult.</li> </ul>	<b>PSHE - Spring Year B</b> <ul style="list-style-type: none"> <li>I can describe strategies for keeping personal information private, depending on context.</li> <li>I can explain that internet use is never fully private and is monitored e.g. adult supervision.</li> <li>I know what the <b>digital age of consent</b> is and the impact this has on online services asking for consent.</li> </ul>	



Online Safety	Copyright & Ownership	Lake	Coombe	Forest	Spring	Mill
		<b>COMPUTING - Summer Year A, Summer Year B</b> <ul style="list-style-type: none"> <li>I know that work I create belongs to me.</li> <li>I can name my work so that others know it belongs to me.</li> </ul>	<b>COMPUTING - Autumn Year A</b> <ul style="list-style-type: none"> <li>I can explain why work I create using technology belongs to me.</li> <li>I can save my work under a suitable title/name so that others know it belongs to me.</li> <li>I understand that work created by others does not belong to me and I respect others work stored on the shared drive.</li> </ul>	<b>COMPUTING - Spring Year A &amp; Autumn Year B</b> <ul style="list-style-type: none"> <li>I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause (plagiarism).</li> <li>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.</li> <li>I can give some examples of content which I must not use without permission from the owner, e.g. music, videos, images.</li> <li>I can demonstrate the use of search tools to find and access online content which can be reused by others.</li> </ul>	<b>COMPUTING - Spring Year A, Autumn Year B, PSHE Autumn Year A</b> <ul style="list-style-type: none"> <li>I can explain why copying someone else's work from the internet without permission can cause problems.</li> <li>When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.</li> <li>I can assess and justify when it is acceptable to use the work of others.</li> <li>I can give examples of content which I must not use without permission from the owner e.g. music, videos, images.</li> <li>I can give examples of content that is permitted to be reused and know how this content can be found online.</li> </ul>	<b>COMPUTING - Autumn Year A</b> <ul style="list-style-type: none"> <li>I can assess and justify when it is acceptable to use the work of others.</li> <li>I can give examples of content that is permitted to be reused.</li> <li>I can demonstrate the use of search tools to find and access online content which can be reused by others.</li> </ul>

As a school, we also celebrate Safer Internet Day annually and reinforce online safety throughout the curriculum whenever opportunities arise.