

Southbourne Junior School - Computing Progression Map

Computer Science		
Year Group	Knowledge Children will know...	Skills Children will be able to...
3	<p>Computational Thinking: To know algorithms are a set of instructions and use on Scratch. To know that algorithms can be split into steps using microbits to send a message.</p> <p>Coding: To know that coding means creating a set of instructions. To know that sequencing means putting instructions in a specific order. To know that using loops makes the computer do the same thing multiple times without having to repeat the code. Know that to evaluate a program is akin to judging whether or not it has worked and what has gone wrong.</p>	<p>Computational Thinking: To create algorithms for my programming projects To decompose projects into steps to create an algorithm To understand abstraction is focusing on important information To identify patterns in an algorithm</p> <p>Coding: To design a program To create a program using a design To create a sequence of code To work with a variety of inputs and outputs To evaluate my program</p>
4	<p>Computational Thinking: To know abstraction means keeping an algorithm simple and precise. Know how to correct errors in an algorithm - debug</p> <p>Coding: Know how to use selection (IF, ELSE) & repetition (loops) when coding. Know how to use different inputs and outputs in a code. Understand that debugging means to fix a code</p>	<p>Computational Thinking: Use abstraction to focus on what's important in a design. Write more precise algorithms for use when programming. Use simple selection and repetition in algorithms. Use logical reasoning to detect and correct errors in programs.</p> <p>Coding: Use repetition in programs. Work with a variety of outputs. Use logical reasoning to systematically detect and correct errors in programs. Use simple selection in programs.</p>

5	<p>Computational Thinking: Understand how effective an algorithm can be when writing code. How algorithms can have different effects in different programs, i.e. Scratch quizzes. Understand each section of a code and break it into parts.</p> <p>Coding: Know to use purposeful selection in a code. Know the importance of debugging and that without it, the code will not work.</p>	<p>Computational Thinking: Explain how a variety of algorithms work Solve problems by decomposing them into smaller parts. Use selection in algorithms. Evaluate the effectiveness of algorithms.</p> <p>Coding: Debug work and identify/fix errors through different sources. Create programs by decomposing them into smaller parts. Use a variety of selection commands in programs. Use conditions in repetition commands. Work with variables. Evaluate work and identify errors.</p>
6	<p>Computational Thinking: Know how to critically evaluate the algorithm to suggest improvements, what could have been done better? Identify specific parts of a program to improve.</p> <p>Coding: Know how to implement a range of variables, sequence and selection commands in the code.</p>	<p>Computational Thinking: Decompose a design or code to focus on specific parts. Critically evaluate my work and suggest improvements. Recognise and make use of patterns in design and code.</p> <p>Coding: Use a range of sequence, selection and repetition commands to implement a design. Identify the need for, and work with, variables. Create a range of sequence, selection and repetition commands to implement my design.</p>

Information Technology		
Year Group	Knowledge	Skills
3	<p>Word Processing Typing:</p> <ul style="list-style-type: none"> - Know that the keyboard is arranged in a QWERTY style and to understand the function of 'home 	<p>Word Processing Typing:</p> <ul style="list-style-type: none"> - I can use index fingers on keyboard home keys (f/j), use left fingers for a/s/d/f/g, and use right fingers for h/j/k/l.

	<p>keys’.</p> <ul style="list-style-type: none"> - Know that it is important to coordinate the movements of both left and right hands when typing. <p>Data Handling:</p> <ul style="list-style-type: none"> - Know to complete a data handling activity with a sorting diagram using images and text. <p>Presentations, web design and eBook Creation:</p> <ul style="list-style-type: none"> - Know how to create an interactive comic with sounds, formatted text and video. <p>Video Creation:</p> <ul style="list-style-type: none"> - Know how to sequence clips of mixed media in a timeline and record a voiceover. 	<ul style="list-style-type: none"> - I can edit the style and effect of text and images to make documents more engaging and eye-catching e.g. borders and shadows. <p>Data Handling:</p> <ul style="list-style-type: none"> - I can create a sorting diagram and complete a data handling activity with it using images and text. <p>Presentations, web design and eBook Creation:</p> <ul style="list-style-type: none"> - I can create an interactive comic with sounds, formatted text and video. <p>Video Creation:</p> <ul style="list-style-type: none"> - I can sequence clips of mixed media in a timeline and record a voiceover.
4	<p>Word Processing:</p> <p>Know to combine images from different sources to create a poster.</p> <p>Be able to know that cut, copy and paste are useful shortcuts when organising text.</p> <p>Know how to use Google Forms to create an online questionnaire.</p> <p>Be able to analyse the results and understand what they are showing.</p> <p>Presentations, web design and eBook creation:</p> <p>That the internet can be used to import pictures into a document</p> <p>Video Creation:</p> <p>Know that a soundtrack can be a useful addition to a video and add sound effects or music.</p> <p>That a video can be made using a selection of pictures and how to record a voiceover.</p> <p>Know which tools are best to use to format the video.</p>	<p>Word Processing:</p> <p>Combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets.</p> <p>Confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text</p> <p>Data Handling:</p> <p>Create and publish online a questionnaire and analyse the results.</p> <p>Presentations, web design and eBook creation:</p> <p>Import images to a project from the web and camera roll.</p> <p>Video Creation:</p> <p>Sequence clips of mixed media in a timeline and record a voiceover.</p> <p>Evaluate and improve the best video tools to best explain understanding.</p> <p>Edit sound effects for a purpose.</p> <p>Compose a soundtrack that can be added to a project.</p> <p>Add music and sound effects to films.</p>

<p>5</p>	<p>Word Processing: Know how to organise text to suit a purpose. Know to combine images from different sources to create a quiz about rivers.</p> <p>Presentations, web design and eBook creation: Manipulate shapes and including a variety of media, animations, transitions and other effects, create an interactive presentation.</p> <p>Video Creation: Know how to use animation in a video that the child has scripted. Use a range of media to create videos. Experiment with live loops using GarageBand to create a song To choose which animation is best to deliver the final product.</p>	<p>Word Processing: Combine digital images from different sources, objects, and text to make a final piece of a variety of tasks. Organise and reorganise text on screen to suit a purpose.</p> <p>Presentations, web design and eBook creation: Create and export an interactive presentation including a variety of media, animations, transitions and other effects. Manipulate shapes to create digital art.</p> <p>Video Creation: Write and record a script using a teleprompter tool. Take multiple animations of a character created and edit them together for a longer video. Record animations of different characters and edit them together to create an interview. Evaluate and improve the best video tools to best explain understanding. Effectively use animation tools in presenting software to create animations. Experiment with live loops to create a song. Edit sound effects for a purpose. Record a radio broadcast or audiobook Use cutaway and split screen tools. Evaluate and improve the best video tools to best explain understanding. Further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool.</p>
<p>6</p>	<p>Word Processing: Know which application is best to show the final product. Format and publish the work using tools to suit a</p>	<p>Word Processing: Confidently choose the best application to demonstrate my learning. Format text to suit a purpose.</p>

	<p>purpose.</p> <p>Presentations, web design and eBook creation: Know what program to use to design an app prototype for discussing the Ancient Maya. Choose the correct application for the right audience.</p> <p>Video Creation: Understand why one type of media is better at delivering a message than another. Know how to edit pictures, add backgrounds or merge. Use animation to motivate classmates.</p>	<p>Publish my documents online regularly and discuss the audience and purpose of my content.</p> <p>Presentations, web design and eBook creation: Design an app prototype that links multimedia pages together with hyperlinks. Choose applications to communicate to a specific audience. Evaluate my own content and consider ways to improve. Edit a picture to remove items, add backgrounds, merge two photos.</p> <p>Video Creation: Plan, script and create a 3D animation to explain a concept or tell a story. Choose and create different types of animations to best explain learning. Create videos using a range of media - green screen, animations, film and image.</p>
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Digital Literacy		
Year Group	Knowledge	Skills
3	<p>To recognise that their personal information is unique to them and the reasons why they need to keep this private. To understand the need for a secure password. To understand that they need to make an adult aware of what they are doing online and how to report concerns. To begin to understand that bullying can also happen online and this is called cyberbullying. To begin to understand that not everything they see online is true.</p>	<p>explain what is meant by the term 'identity'. explain how people can represent themselves in different ways online. explain what it means to 'know someone' online and why this might be different from knowing someone offline. describe ways people who have similar likes and interests can get together online. explain how to search for information about others online demonstrate how to use key phrases in search engines to gather accurate information online.</p>

	To understand how to communicate effectively in different forums that they may encounter online	
4	<p>To recognise the need to choose age appropriate games and why these are in place.</p> <p>To recognise the importance of sharing what they are doing online with adults and the need to discuss when they are concerned about something.</p> <p>To know the importance of a healthy balance when it comes to amount of screen time.</p> <p>To understand that what they see online has been created and is owned by someone.</p> <p>To recognise the need to protect devices from viruses.</p> <p>To recognise the effect their writing and images may have on others and how this links with cyberbullying.</p>	<p>explain how my online identity can be different to my offline identity.</p> <p>describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.</p> <p>describe strategies for safe and fun experiences in a range of online social environments (e.g. live streaming, gaming platforms).</p> <p>give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.</p> <p>describe how to find out information about others by searching online.</p> <p>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.</p>
5	<p>To know why they need to keep personal information and passwords private and to create secure passwords.</p> <p>To understand that there are appropriate and inappropriate uses of the internet including excessive use.</p> <p>To recognise the risks and rewards of using Internet communication and how to protect themselves on different devices.</p> <p>To respect the rights of others online including introducing the concepts of copyright and plagiarism.</p> <p>To recognise inaccuracy and bias online and evaluate websites for their validity</p>	<p>explain how identity online can be copied, modified or altered.</p> <p>demonstrate responsible choices about my online identity, depending on context.</p> <p>describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups).</p> <p>search for information about an individual online and summarise the information found.</p> <p>recognise online bullying can be different to bullying in the physical world and can describe some of those differences.</p> <p>explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine.</p> <p>I can explain how some technology can limit the information I am presented with e.g. voice-activated searching giving one</p>

		result.
6	<p>To begin to understand how to use social networking sites effectively, how to report concerns and the role of adults in supporting this usage.</p> <p>To understand how to protect themselves from cyberbullying and how to communicate with others online respectfully.</p> <p>To be aware of copyright issues and know that not all resources they find online are legal to use or copy.</p> <p>To evaluate their own use of technology including the use of email, social networking, online gaming, mobile phones and consider how they present themselves online and how they would like to be perceived online</p>	<p>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.</p> <p>describe issues online that could make anyone feel sad, worried, uncomfortable or frightened.</p> <p>give examples of how to get help, both on and offline</p> <p>explain how sharing something online may have an impact either positively or negatively</p> <p>describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs</p> <p>explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.</p> <p>describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me</p> <p>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.</p>