

Cassop Primary School



Computing Curriculum Plan

Year 1 Computing	Autumn	Spring	Summer
E-Safety and Digital Literacy	E-Safety lesson to begin each half term and to be taught ongoing throughout the year * Know that the internet is accessed all over the world and know some devices are connected to the internet * Know that they should always ask a responsible adult if they want to use a device and ask for help if they see anything that worries them * With support from an adult be able to find information from the internet		
Topic	Information Technology	Information Technology <i>Uses of computing beyond school</i>	Computer Science
Question	What is my login?	What is the internet for?	Where will the beebot go?
Progression Skills Statements	* Be able to log onto a computer * Be able to navigate around the screen with a mouse or touchpad * Know how to type text using space bar for separate words to create something meaningful * Be able to independently find and use an app to take and view a video/photo	* Be able to log onto a computer * Be able to navigate around the screen with a mouse or touchpad * Know how to type text using space bar for separate words to create something meaningful * Be able to independently find and use an app to take and view a video/photo * <i>To know what the internet can be used for</i>	* Know what the buttons on a beebot represent * Know how to program a beebot to follow simple sequence of instructions (1-2 turns) * Make a simple sequence of instructions (algorithm) * Be able to make simple predictions about an algorithm (The beebot will go...) * Be able to change (debug) the program to improve the route

Skills from NC	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 ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content ♣ 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.
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Year 2 Computing	Autumn	Spring	Summer
E-Safety and Digital Literacy	E-Safety lesson to begin each half term and to be taught ongoing throughout the year * Know devices that enable direct communication between people through images and text * Know what personal information is and that they should never share this with anyone they don't know * Know that they should tell a trusted adult if they are upset or worried about anything on a device * With support be able to use a safe search engine e.g. swiggle - (<i>summer term – to prepare children for KS2</i>)		
Topic	Information Technology <i>Uses of computing beyond school</i>	IT – Consolidate skills Computer Science	IT – Consolidate skills Computer Science
Question	Can you save and print?	Can you fix the problem?	What is Scratch Junior?
Progression Skills Statements	* Be able to save, retrieve and print work * Know how to type and format text including basic punctuation and capital letters * Be able to confidently use cursor - mouse/touchpad * Be able to add/create simple images * Be able to combine simple text and graphics, for instance create a poster for a purpose * <i>Know the uses of the internet</i>	* Know how to program a beebot to achieve a set goal (sequence of 6-7 instructions – maze/point collecting) * Be able to debug more complex problems e.g. a route on a beebot maze	* Begin to use block programming to complete a simple program e.g. Scratch junior
Skills from NC	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 ♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content ♣ 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.		

Year 3 Computing	Autumn	Spring	Summer
E-Safety and Digital Literacy	<p>E-Safety lesson to begin each half term and to be taught ongoing throughout the year</p> <ul style="list-style-type: none"> * Know that some people on the internet should not be trusted * Know that concerns about what they see online should be reported to a trusted adult * Create and use a simple password * Use a search engine to find information for given key words (swiggle) * Know which websites are useful and begin to understand all might not be trustworthy * Be able to log in and out of websites used at school * Know that using technology can sometimes be inappropriate <p><i>To be introduced to classroom rules – safe use of technologies</i></p>		
Topic	Information Technology	Computer Science	Consolidate all areas of computing <i>Computer Networks</i> <i>Uses of computing beyond school</i>
Question	What are Publisher and Powerpoint?	Can you create a program to draw shapes?	How can we email safely?

<p>Progression Skills Statements</p>	<ul style="list-style-type: none"> * Be able to log in a computer system as themselves and can find their documents (personal drive) * Know how to open shared documents and pictures * Know how to use publisher to create a simple brochure/poster * Know how to sequence and add slides to make a simple powerpoint * Create a meaningful document that contains both pictures and text 	<ul style="list-style-type: none"> * Be able to use a block program to make a simple programme using sequencing and timing (Scratch junior, Scratch, Microbits) * Input set of instructions according to programming language and environment (Logo, Scratch Jun, Microbits etc) * Use repeat loops for instance to create a program to draw regular 2D shapes (Logo, Scratch) * Independently be able to debug basic mistakes * Begin to use conditionals – If I click here then this happens...(Scratch jun, Scratch, Microbits) 	<ul style="list-style-type: none"> * <i>Be able to email safely and collaborate and share on shared sites</i> * <i>Understand how this is possible within simple networks</i> * <i>Know the uses of computing beyond school (work on shared documents, blogging, mailing)</i>
<p>Skills from NC</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 simple algorithms work and to detect and correct errors in algorithms and programs ♣ 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 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 ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 		

Year 4 Computing	Autumn	Spring	Summer
<p>E-Safety and Digital Literacy</p>	<p>E-Safety lesson to begin each half term and to be taught ongoing throughout the year</p> <ul style="list-style-type: none"> * Know that pictures and text online can end up with strangers * Reliably know what to do if they are exposed to unpleasant materials on any device * Know that having a balance of online and offline activities is important * Reliably uses a more complex password to access resources * Know what the key words are to enter into a search engine to find information as they want * Can select useful websites from the results of a search 		

	Include Powerpoint and Publisher and combine for effect Include audio content		
Topic	Information Technology	Computer Science	Consolidate all areas of computing Computer Networks
Question	Can you add sound?	Can you make a fit bit?	What is blogging?
Progression Skills Statements	<ul style="list-style-type: none"> * Be able to save a document in a shared folder and retrieve this to continue working on it (<i>computer/work shared using Airdrop</i>) * Be able to organise their personal folder effectively e.g. folders * Know how to change font style and size; including shapes and backgrounds and to use spellcheck function * Be able to use sequence or create an effective presentation (Powerpoint/iMovie) * Be able to deliver a simple presentation to their peers 	<ul style="list-style-type: none"> * Be able to use a program to sequence, use conditionals and use a variety of inputs and outputs (Scratch – steer an object by using keys/Microbits – show an image when shaken * Be able to explain how their program works for instance by annotating a print out * Be able to modify their program and be able to predict the effects of any changes * Know how to break sets of instructions into short steps to achieve a goal for instance drawing repeated squares to make a pattern 	<ul style="list-style-type: none"> * Use as a communication tool to go beyond emailing e.g. blogging * Be able to collaborate and share * Understand that networks including the internet can provide multiple services and begin to appreciate how the network operates
Skills from NC	<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 simple algorithms work and to detect and correct errors in algorithms and programs ♣ 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 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 ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 		

Year 5 Computing	Autumn	Spring	Summer
E-Safety and Digital Literacy	E-Safety lesson to begin each half term and to be taught ongoing throughout the year <ul style="list-style-type: none"> * Know the risks posed to them by Social Media, including that understanding that people may not be who they say they are * Know that it is irresponsible to share images of friends online without their permission * Know that a balance of online and offline activities is important to maintain good health * Know how to reports concerns online * Effectively use a search engine to find multiple criteria using AND/OR to refine searches 		

	<p>* Know how to compare information from different websites and know that some sites may show bias Include numerical and data applications e.g Excel Include podcasting and safe use of messaging</p>		
Topic	Computer Science	Information Technology	Simulate Physical Systems through the use of programs (anything that we can attach to a computer other than a screen, e.g. lights, buzzers, motors)
Question	Can you use variables, loops and conditional sentences?	What is Excel?	What is podcasting?
Progression Skills Statements	<p>* Use customization to change a working program to change its effect for instance backgrounds and sprite in Scratch * Uses loops to achieve goals (Scratch – shapes, letters) * Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating game in Scratch, an interactive slide in Powerpoint, creating a game in Kodu with a scoring system, creating an electronic die with a Microbit)</p>	<p>* To be able to share their work from their personal folder to work collaboratively with others * Know how to use software to create an effective poster or leaflet * Be able to select the best program for the task * Using software know how to add data into a prepared spreadsheet to answer simple questions for instance using Excel * Independently prepare and effective presentation to show their learning to others which includes some elements of timing or sequence (Powerpoint/iMovie)</p>	<p>* Computer Aided Design * Know services of the internet (mailing, blogging) * Know connected devices exchange pockets of data (texts/video calls)</p>
NC Skills	<p>♣ 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 simple algorithms work and to detect and correct errors in algorithms and programs ♣ 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 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 ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>		

Year 6 Computing	Autumn	Spring	Summer
E-Safety and Digital Literacy	<p>E-Safety lesson to begin each half term and to be taught ongoing throughout the year</p> <ul style="list-style-type: none"> * Know how to reduce the risks posed by Social Media by managing their friends lists and privacy settings * Be able to maintain a healthy balance of online and offline activities and know that some activities may effect their emotional wellbeing * Know that it is illegal to post or view rude images of children * Know that hacking or misusing someone else's account is illegal * Know that search results can be manipulated by sponsorship and advertising * Know how to validate information found through searches by checking more than one source * Know that some news is 'fake' <p>Create multimedia presentations to audiences beyond the classroom</p>		
Topic	Computer Science	Information Technology	Simulate Physical Systems through the use of programs (anything that we can attach to a computer other than a screen, e.g. lights, buzzers, motors)
Question	What will your program do?	Can you create a multimedia presentation?	Can you design your own game?
Progression Skills Statements	<ul style="list-style-type: none"> * Use conditional sentences (when/then) to program objects (Kodu, Scratch, Microbits) * As above but use mathematical expressions when constructing conditionals e.g trigger winning when (If loops>5 then...) * Be able to explain what a program will do and accurately predict the effect of the changes * Be able to reliably modify existing algorithms and code to change the effect of a program * Be able to make an efficient program by using an effective algorithm and techniques such as loops and procedures 	<ul style="list-style-type: none"> * Know how to use the main features of Microsoft Office to produce suitable documents and presentations for an audience * Know how to edit a picture (Paint.net) * Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set of numbers * To create and sequence a video, add sound effects, transitions and title/subtitles (iMovie) * To be able to use two or more programmes to create a final piece of work e.g. edit a picture before inserting into a document 	<ul style="list-style-type: none"> * Be able to design games * Be able to debug (the process of identifying and removing errors from instructions or programs) and improve * Know services of the internet (mailing, blogging) * Know connected devices exchange pockets of data (texts/video calls)
NC Skills	<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 simple algorithms work and to detect and correct errors in algorithms and programs ♣ 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 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 		

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