

KS1		Computer Science • 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	Information Technology • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school	Digital Literacy • 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	Key Skills	Computer Science	Information Technology	Digital Literacy
Year One	• To know how to switch a range of digital devices (computer/laptops) on and off • Load programs (office, apps) with support/open and close apps • Use a mouse pad to navigate an age-appropriate website/know how to navigate programmes • Use a mouse pad to select/drag/position an object or window to talk about what they are doing with Computers/Digital Media using appropriate vocabulary according to equipment available e.g screen/keyboard/laptop/computer/mouse/headphones	• To explore a range of control toys and digital devices (BeeBots/Kubo) • To follow instructions to move around to complete a simple task • To give a sequence of instructions to complete a simple task (ScratchJR/Scratch) • To record instructions simply using pictures • To understand that instructions should be given clearly and in the correct order) • To talk about what will happen when instructions are given in a sequence • to navigate a sprite/BeeBot around a course (ScratchJR/Scratch)	• To use a digital device to take a picture or record their work (digital camera) • To select or record a sound to add to their work (Scratch) • To be familiar with a keyboard • To select images on a computer/laptop • To begin to type sentences (with support using capital letters, full stops and other punctuation • To use a paint package to a create a picture (paint) • To use predefined layouts or templates for presentation • To know other uses for ICT outside of school • To discuss examples of other ICT uses. •	• To know that we can communicate online (email/text) • To contribute ideas to a class email or respond to a message • To create a story to combine words, pictures, sounds and animations (ppt) • Use simple writing tools to create their own content (office/purple mash) • Follow age-appropriate links provided by the teacher to research information • With support, use sound recording tools to convey a simple message • To sort objects into groups according to the criteria

	<u>Key Skills</u>	<u>Computer Science</u>	<u>Information Technology</u>	<u>Digital Literacy</u>
Year Two	• To develop awareness of keyboard layout and use of a mouse e.g. use the mouse or arrow keys to insert words and sentences • To know backspace/undo/ • shift for capital letters/enter/upload • Changing font/ size/colour and style of text. • typing skills (use two hands when typing) • Logging on/off digital devices use navigation skills to access appropriate parts of a website/ simple program/ app	• Understand that programs use precise instructions to work • Create simple programs and find bugs in them. • Predict outcomes of their algorithms and programs • To know how to control a range of digital devices • To know that devices and actions on screen may be controlled by sequences of actions and instructions • To create a sequence of instructions to complete a simple task (move a BBot/create a simple shape) • To control a floor robot using appropriate buttons (BeeBots) • To make predictions about what will happen when a command is entered • To discuss how to improve/change their sequence of commands. • To know the purpose of a range of digital devices: laptops/cameras/computers • To begin to answer 'What if' questions using a simulation (ScratchJr/Scratch to know the difference between input/output devices	• To develop basic editing skills e.g. shift key for upper case, question marks, spaces after punctuation. • To know how to improve the presentation of a piece of work by changing the font size, colour and style • To use different layouts and templates for different purposes (e.g. story/newspaper /poster) • To understand that folders are used to organise files on a computer • To organise files and folders by creating, renaming, moving, copying and deleting • To combine graphics, text and sound to enhance their text (PPT/Word) • To use a sound recording tool to record voice for a specific purpose (Scratch/PPT) • To create a simple animation to illustrate a story or idea (Scratch/ScratchJr) • To upload an image	• To compare the different ways that messages can be sent e.g email/text /telephone/letter and start to consider their advantages and disadvantages • To contribute and respond to an e-mail (with support from teacher) • to look and talk about other people's contributions online (padlet/prezi/Scratch) • To consider who can see their contributions on scratch/padlet • To know that stories can be shared in different ways (photos/video/animation) • To create/use own pictograms/graphs (purple mash) • To create QR codes (goo.gl) • To access websites and documents using QR codes • To enter/save and retrieve pictures and text

KS2		Computing Science • 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	Information Technology • 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	Digital Literacy • 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.
	<u>Key Skills</u>	<u>Computer Science</u>	<u>Information Technology</u>	<u>Digital Literacy</u>
Year Three	• To upload from digital devices and the Internet to a shared space (Class folders/Chn's Folder) • To know that they can access their work from any school computer by logging on to their Folder/Network Area. • Open/edit and save their work in own space • To insert/cut/ copy/paste • Use ctrl+v and ctrl+c to copy and paste • To use 'save as' to create another version of their work • To develop further basic drafting skills: • Insert words or sentences.	• To develop an understanding of how technology works and how computers process instructions and commands. • To create/edit and refine more complex sequences of instructions for a variety of programmable devices e.g. using the repeat command • To use a computer to create basic applications, investigating how different variables can be changed and the effect this has • To understand that computer simulations can represent real life situations. • To use simulations to represent real life situations	• To use still and digital cameras • To know what makes a good photo (hold the camera steady/point at people's faces/to discuss the quality of their image and make decisions (e.g. delete a blurred / bad image) • To download images and video • To select suitable sounds (including recording with a microphone) • To recognise and use key features of layout and design such as text boxes, columns, borders, WordArt • Explore and begin to use more advanced features in a paint package, eg colour picker, colour replacer • Save images and use them as part of other multimedia/ desktop	• To reply to an email independently • To evaluate a range of printed and electronic texts, appropriate to task e.g newspaper, poster, webpage and recognise key features of layout and design • To organise and present information for a specific audience • To begin to experience forms of online discussion: such as blogs, wikis, quizzes, surveys and google hangouts • To understand that not all sites are valid. • To know that ICT enables access to a wider range of information and tools to help find specific information

	• Centre titles. • Change font, font size, colour. • To practice touch typing	• To navigate a programming app • To control a character by dragging commands • To write a simple program/create a simple animation	publishing work • To use music software to select/record/organise and reorganise sounds • To locate, record, save and retrieve sounds • to add sounds from different sources. • Sequence still images and use simple editing techniques to create a presentation • To understand how to refine internet searches • To understand how to identify valid sites.	quickly • Produce work using a computer, using more advanced features of programs and tools (font sizes) • To work collaboratively to create documents, including presentations • To understand the basic structure of a database • To add data to a pre-made database • To use the data in a pre-made database to generate graphs and charts • To use technology to create graphs and charts • To answer questions by searching and sorting the database
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	<u>Key Skills</u>	<u>Computer Science</u>	<u>Information Technology</u>	<u>Digital Literacy</u>
Year Four	• To use the online dictionary/thesaurus • To use ctrl+alt+prntscrn to take a picture of the whole screen and paste it into paint to adapt it. • Use windows snipping tool to capture and annotate work • Continue to practice touch typing • Use more than two fingers to type • To develop further basic drafting and editing skills • Edit and top copy literacy work using Word/PPT/Publisher • Use spell checker • delete, insert and replace text using mouse or arrow keys	• To understand that ICT allows for situations to be modelled which it would be impractical to try out in real life • To investigate the effects of changing variables in these simulations • To develop their understanding of how technology works and how computers process instructions and commands • To create a program which can be controlled by external inputs (Scratch) e.g to program their character to navigate their 3D world with an input using control device • To change algorithms/conditional statements and investigate the effect this has e.g use of 'if' and 'then' •	• To evaluate a range of digital media, appropriate to task e.g websites • To plan structure and layout of document/presentation • To improve presentation of a document by laying it out effectively • To select and import images from digital cameras and graphics packages • Select and import sounds (eg own recording) and video/ visual effects • Through peer assessment and self-evaluation, evaluate work both during and after completion, and make suitable improvements • To develop an increasing awareness of intended audience. • To import a photograph and explore the effects which can be created • To select areas and manipulate to give different effects. • To add text, sound effects and other graphic effects • To select from your best work to save and share (presentation, class folder) • Ro use at least two online communication methods in topic work (blogs/emails etc.)	• To open/read, and reply to email (independently) • To collaborate to create a document, giving thought to its audience and including links/images/embedded media (PPT) • To understand that ICT allows us to make improvements to our work quickly and efficiently. • To continue to use technology to create graphs and present data in different ways. • To design and create a basic database • To use a database to answer questions that have been constructed • To enter data into a spreadsheet • To change data and observe changes in results

			• To discuss advantages and disadvantages of these communication methods • To start to think about the different styles of language layout and format of online communications sent to different people (eg. when it is appropriate to use “text language”). • To begin to experience forms of online discussion: such as blogs, wikis, • Start new threads and contribute to others relevant to the topic; consider relevance of contributions • To understand what the internet is	
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	<u>Key Skills</u>	<u>Computer Science</u>	<u>Information Technology</u>	<u>Digital Literacy</u>
Year Five	• To be able to use an online dictionary/thesaurus to search out level specific grammar and vocabulary independently • To use a variety of techniques to save and annotate on screen projects (screenshots/snipping) • To find, save, crop and edit images to suit needs of projects • Continue to practice touch typing and use several fingers when typing • Use spellchecker and grammar checker to ensure consistency throughout work	• To begin to develop understanding of how technology works; how computers process instructions and commands, including the use of coding languages. • To experience a selection of coding environments (Scratch, Code.org) • To design their own game including sprites, backgrounds, scoring and/or timers. • To use conditional statements to create unique algorithms • Begin to understand the history of Computer Science • Use variables to add variation to algorithms • To program start and ends to games involving wins, losses and draws • To create variable interaction in quizzes and games using a combination of selection, conditional statements and variables (Data blocks in scratch) • To evaluate the effectiveness of their algorithms • To continually debug code to identify and correct errors, exceptions and exploits	• To use presentation software and skills to present work or information relating to their learning. • To evaluate a range of digital media, appropriate to task e.g website, prezi, blog, pdfs and recognise key features of layout and design and relate to other curriculum areas (Reading/Writing/Topic) • To select software to support structure and layout of document/presentation • To improve presentation of a document by considering its target audience • To select and import graphics from digital cameras, graphics packages and online sources • To select and import sounds (eg own recording, free online sources) video/visual effects • Through self-evaluation, evaluate projects both during and after completion, and make suitable improvements • To develop projects with an awareness of intended audience • To use a timeline to organise frames of video footage • To capture video clips to communicate ideas and information	• Use technology to present their work, showing an increasing degree of skill and using advanced software • To use different filming techniques and camera angles e.g. zoom, panning, wide shot etc. to create different mood/perspective • To plan a video or animation by drawing a storyboard (Storyboard It) • To use a range of sound effects, music and voice-overs to create mood/ atmosphere • To select and edit sounds, text, movie clips and other effects to suit purpose and audience • Begin to recognise that the internet may contain material that is irrelevant, bias and inappropriate. • Begin to understand how issues of copyright apply to their own work • Begin to understand the different type of copyright pertaining to digital medias

			to specific audiences • To edit, reorganise and enhance digital video for a specific purpose or audience • To begin to produce a portfolio of written and visual work and projects for sharing with other children inside and out of school • To use online communication methods to support topic work • To consider language, layout and format when communicating with different people online • To use advance searches • To understand the world wide web in more detail servers, routers) • To understand why the internet is not always valid	
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	<u>Key Skills</u>	<u>Computer Science</u>	<u>Information Technology</u>	<u>Digital Literacy</u>
Year Six	• To continue to build on Yr5 key skills • To select suitable software to edit and redraft written work • Use a variety of keyboard shortcuts to improve efficiency on computing systems	(Building on Yr5 work) • To continue develop understanding of how technology works; how computers process instructions and commands, including the use of coding languages. • To experience a variety of coding environments (Scratch, Code.org) • To show an understanding of the history of computing and computer science. • To design their own game including sprites, backgrounds, scoring and/or timers. • To use conditional statements to create unique algorithms • Use variables to add variation to algorithms • To program start and ends to games involving wins, losses and draws • To create variable interaction in quizzes and games using a combination of selection, conditional statements and variables (Data blocks in scratch) • To evaluate the effectiveness of their algorithms • To continually debug code to identify and correct errors, exceptions and exploits	(Building on Yr5 work) • Through peer assessment and self-evaluation, evaluate projects both during and after completion, and make suitable improvements • To continue to produce and add to a portfolio of written and visual work and projects for sharing with other children inside and out of school • To engage in a range of online activities including; publishing and sharing work for evaluation and evaluating the work of others.	(Building on Yr5 work) • Use technology to present their work, showing a degree of skill and using advanced software • To use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data • Understand how issues of copyright apply to their own work • Understand the different type of copyright pertaining to digital medias • Recognise that the internet may contain material that is irrelevant, bias and inappropriate. • Save and use pictures, text and sound recognising copyright issues

