

Computing Progression of Skills

EYFS	<u>Early Learning Goal</u> Understanding the World (Technology) Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.				
EYFS	Digital Literacy		Information Technology		Computer Science
	Online-Safety see Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	
	<ul style="list-style-type: none"> • recognise simple examples of personal information and trusted people • recognise it's OK to say no to someone who asks me to do something I don't want to do • recognise some ways the internet can be used to communicate. • identify ways that people can be unkind online • understand a list of rules to help keep us safe and healthy in when using technology. 	<ul style="list-style-type: none"> • begin to identify with support, examples of technology in the classroom 	<ul style="list-style-type: none"> • explore mark marking on iPads/IWB • experiment with using keyboard to make marks on a page 		<ul style="list-style-type: none"> • explore floor robots such as Bee-Bots

	<ul style="list-style-type: none"> begin to use the internet to find things out, with support 				
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KS1	<p><u>National Curriculum</u></p> <p>By the end of KS1, pupils should be taught to:</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 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. 				
Y1	Digital Literacy	Information Technology		Computer Science	

Online Safety See Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	
<ul style="list-style-type: none"> • identify a set of rules to keep everyone safe online • recognise more detailed examples of personal information • recognise that there may be people online who could make me feel sad, embarrassed or upset and what to do if this happens • use the internet, with adult support, to communicate with known people • understand how to behave online in a way that will not upset others • recognise that information can stay online and could be copied, as well as which information should not be put online • use the internet to find things out 	<ul style="list-style-type: none"> • identify (in simple terms) what technology is • recognise ways we use technology in the classroom • recognise ways we use technology at home • identify a computer and its main parts 	<ul style="list-style-type: none"> • log into a computer • use a mouse to click and drag, highlight and select, open and navigate around programs • use a keyboard to type (including using letter, number, space and backspace keys and shift/caps lock to type capital letters, bold, italic and underline tools) • purposefully select tools to create a digital picture - e.g. spray, lines, shapes, brush etc • use technology purposefully to create media • save and retrieve work with support 		<ul style="list-style-type: none"> • give and follow precise and unambiguous instructions • begin to recognise that programs require precise and unambiguous instructions and that these are called algorithms • plan and create a simple program for a Bee-Bot and a sprite (in Scratch Jr) • debug a simple program

Y2	Digital Literacy		Information Technology		Computer Science
	Online Safety See Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	
	<ul style="list-style-type: none"> • recognise that online information about me can be seen by others • use passwords to protect accounts and devices • recognise that other people's identity online can be different to their identity in real life • recognise that information put online can last for a long time • recognise how someone who is bullied online would feel, and how to get help for myself or others. • use keywords in search engines • begin to recognise that some information found online may not be true 	<ul style="list-style-type: none"> • recognise ways technology is used in the wider world • begin to recognise what 'information technology' is • begin to consider the benefits of information technology 	<ul style="list-style-type: none"> • use technology to purposefully create a piece of music • use a device to take photographs and establish what makes a good photograph • use tools to edit photographs to achieve desired effects • save, retrieve and evaluate work 	<ul style="list-style-type: none"> • record and represent data manually • use technology to organise and present data in different ways • begin to analyse data - make comparisons and answer simple questions about the graphs and charts created 	<ul style="list-style-type: none"> • recognise that programs require precise and unambiguous instructions and that these are • called algorithms describe a series of instructions as a sequence explain what happens when the order of instructions changes use logical reasoning to predict the outcome of a program design, create and debug a program with two parts

KS2	<u>National Curriculum</u> By the end of KS2 , pupils should be taught to: <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. 				
Y3	Digital Literacy		Information Technology		Computer Science
	Online Safety See Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	

	<ul style="list-style-type: none"> • know that some people on the internet should not be trusted • know that concerns should be reported to a trusted adult • understand what is meant by the term 'identity' and how it is possible to represent yourself in different ways online • identify benefits and risks of communicating online • identify how people may be hurt by what is said online • understand that too much time using technology can have a negative impact • use a Search engine to find information given key words • know which websites are useful and identify the difference between a 'belief' an 'opinion' and a 'fact' 	<ul style="list-style-type: none"> • recognise how digital devices function • identify input and output devices • recognise how digital devices can change the way we work • identify how a computer network can be used to share information • explore how digital devices can be connected • recognise the physical components of a network 	<ul style="list-style-type: none"> • recognise how text and images communicate information • recognise that text and layout can be edited • change page orientation, font style, size and colour for a given purpose • add content to a desktop publishing document • recognise that an animation is a sequence of pictures • identify what makes a good animation • plan and create an animation • evaluate and improve an animation • use a second piece of software to improve an animation 	<ul style="list-style-type: none"> • decide what data needs to be collected to answer a specific question • create physical and onscreen branching databases • retrieve information from a branching database • evaluate the effectiveness of branching databases 	<ul style="list-style-type: none"> • explain what a sequence is • identify that commands have an outcome • use logical reasoning to explain how some simple algorithms work and begin to recognise errors in simple algorithms • design, write and debug programs in a block-based language which accomplishes a given goal (creating a musical instrument and a maze-based challenge - both in Scratch)
y4	Digital Literacy		Information Technology		Computer Science

Online Safety See Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	
<ul style="list-style-type: none"> • recognise what a strong password is and how to keep personal information private • understand how online and 'real life' identities can differ • identify how to be respectful to others online • identify where bullying might take place online • identify strategies to help limit the use of technology • to analyse information and differentiate between 'opinions', 'beliefs' and 'facts' • understand that lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true 	<ul style="list-style-type: none"> • describe how networks physically connect to other networks • recognise how networked devices make up the internet • outline how websites can be shared via the World Wide Web • describe how content can be added, accessed and shared on the World Wide Web 	<ul style="list-style-type: none"> • identify that sound can be digitally recorded • use a digital device to record and play back sound • plan, write, record and evaluate a podcast • save a digital recording as a file • combine software to edit and improve a digital recording • identify changes that can be made to an image • make changes to an image to achieve a particular goal • identify positive and negative effects of retouching an image 	<ul style="list-style-type: none"> • use a digital device (data logger) to collect data automatically • identify the data needed to answer a question • interpret data collected and draw conclusions 	<ul style="list-style-type: none"> • recognise the importance of accuracy in programming • understand the meaning of repetition in programming • decompose a problem into parts • identify infinite loops and count-controlled loops • design, create and debug a program using count-controlled loops to accomplish a specific goal (in both a text-based and block-based programming environment)

Y5	Digital Literacy		Information Technology		Computer Science
	Online Safety See Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	
	<ul style="list-style-type: none"> • recognise that apps or services may read and share private information, and may take payment for additional content • understand how identity online can be copied, modified or altered and to identify responsible choices about online identity • recognise that some people online may want to do harm • identify how to get help for myself or others who are being bullied online • identify strategies to promote healthy sleep with regards to technology 	<ul style="list-style-type: none"> • recognise that computers can be connected together to form systems • recognise the role of computer systems in our lives • recognise how information is transferred over the internet • explain how sharing information online lets people in different places work together • contribute to a shared project online • evaluate different ways of working together online 	<ul style="list-style-type: none"> • identify that drawing tools can be used to produce different outcomes • recognise that vector drawings consist of layers • create a vector drawing by combining shapes, and evaluate it • recognise that videos include both visual and audio media • plan a video • select a suitable device and software to capture video • recognise the features of an effective video 	<ul style="list-style-type: none"> • identify how databases help us to answer questions • use computer programs to visually compare data • ask and answer questions using an existing database • present findings 	<ul style="list-style-type: none"> • program various outputs (e.g. LEDs and motors) using a microcontroller design, write and debug a program that controls a physical system (Crumble controller) • use a condition in an if...then... statement to produce a given outcome design and create a physical project which includes selection • explain how selection is used in computer programs design, create and debug a program in a block-based programming environment (Scratch) which uses selection and accomplishes a given goal

	<ul style="list-style-type: none"> • understand how to use different search technologies, evaluate digital content and explain how to make choices from search results. • understand the difference between mis-information and dis-information, what a 'hoax' is and why it is important to be 'sceptical' online 		<ul style="list-style-type: none"> • store and retrieve video for editing • evaluate video project 		
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Y6	Digital Literacy	Information Technology	Computer Science
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Online Safety See Project Evolve	Computer Systems and Networks	Creating Media	Handling Data	
<ul style="list-style-type: none"> • recognise the importance of using different passwords for a range of online services, and how to manage these • identify ways in which media can shape ideas about gender, identify and challenge messages about gender roles • understand that we are all responsible for the wellbeing of others in our online social groups and to identify how to report problems online for myself and others • understand how to capture bullying content as evidence and how to report concerns • describe common systems that regulate age-related content • use search technologies effectively and to 	<ul style="list-style-type: none"> • explain why internet search terms need to be chosen carefully • explain why the order of internet search results is important and to whom • discuss the opportunities that technology offers for communication • evaluate different methods of communication on the internet 	<ul style="list-style-type: none"> • use a computer to create and manipulate 3D digital objects • use digital tools to modify a 3D object • identify that physical objects can be broken down into a collection of 3D shapes • design a digital model by combining 3D objects • develop and improve a digital 3D model 	<ul style="list-style-type: none"> • build a data set in a spreadsheet application • create a formula which includes a range of cells in a spreadsheet • apply formula to calculate data required to answer a question • produce a graph to show the answer to a question 	<ul style="list-style-type: none"> • understand the meaning of 'variable' in programming design, create and debug a program in a block-based programming environment (Scratch) which uses variables • and accomplishes a given goal experiment with different physical inputs design and develop a project which uses inputs and outputs on a controllable device (micro:bit)

	explain how search engines work and how results are selected and ranked				
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