Computing Progression of Knowledge and Skills from EYFS to Year 2

Overview:
Through our computing curriculum we aim to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way. We want our pupils to be able to operate in the 21st century workplace and we want them to know the career opportunities that will be open to them if they study computing. We want children to become autonomous, independent users of computing technologies, gaining confidence and enjoyment from their activities. We want the use of technology to support learning across the curriculum and ensure they develop creativity, resilience and problem-solving and critical thinking skills.

This progression of knowledge and skills document has been taken from the National Curriculum (statutory requirements) and the ELG/ Development matters [0-3, 3-4, children in Reception 4-5].
The national curriculum for computing aims to ensure that all pupils:

- 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

<u>EYFS pupils should be given opportunities to:</u>

- use and explore various forms of technology i.e. recording devices, iPads, computers, laptops, notebooks and programmable toys.

Pupils will be learning the following knowledge and skills…

Subject themes	EYFS	Year 1	Year 2
Digital Literacy: Implications (Why? When? Who?)	As a technology user, I can… • **ask an adult when I want to use the internet** • tell you why and how an adult explores websites and searches • **talk about how important a sensible amount of screen time is** • **be careful with technology devices** • describe ways that some people can be unkind online	As a technology user, I can… • **tell an adult when I see something inappropriate online at school and at home** • talk about websites I have been on • explore a website by clicking on buttons, arrows, menus and hyperlinks. • complete a search using a child-friendly search engine under the supervision of adults. • **explain how to behave online in ways that do not upset others**	As a technology user, I can… • **explain why I need to keep my password and personal information private both at school and at home** • complete a search using a child-friendly search engine to find information for a topic, under adult supervision, e.g. Squiggle • **give examples of content that makes me feel sad, worried, uncomfortable or frightened both at school and at home**

	As a technology user, I know that… • **I don't give out my name online** • a sensible amount of screen time keeps me happy • I need to follow the schools online safety rules in order to be safe online/ on a screen both at school and at home • I can tell an adult if something upsets me online/ on a screen • there are different types of technology • trusted adults can help to keep us safe (online and offline)	• **identify different devices that can go on the Internet, and separate those that do not,** e.g. can go on internet: *x box, laptop, tablet phone; d*o not go on internet: *washing machine, beebots, voice recorder* • identify what counts as personal information • identify whether or not statements or images found on the Internet are likely to be true As a technology user, I know that… • **I need to follow the schools online safety rules in order to be safe online/ on screen** • **I need to keep my password private** • **I should not give out my personal information** • **personal information includes my name, address, birthday, school** • inappropriate content is something worrying or unexpected online / on screen • some websites have age restrictions • work I create online belongs to me • there are different ways in which information can be shown, such as pictures, video, text and sound • **there may be people online who could make me feel sad, embarrassed or upset** • **using a username and password helps to keep information safe**	• **recognise more detailed examples of information that is personal to me e.g. exact address, extra-curricular clubs** • identify obviously false information in a variety of contexts, giving a reason to explain why As a technology user, I know that… • **information, including personal information and photos) can stay on line and could be copied** • **I should take regular breaks when using a screen** • a variety of devices (Xbox, PSP, computers and phones) connect users with other people • false information is something that is inaccurate, false or fake • people aren't always who they say they are • some pop ups advertise other games/in app purchases; clicking on these will cost money to the person who holds the account or owns the device • a search engine uses programs that search through pages on websites and return results linked to the keywords entered into it

Subject themes	EYFS	Year 1	Year 2
Computer Science: Applications (What?)	As a technology user, I can… • **make a floor robot move** • make choices about the buttons and icons I press, touch or click on As a technology user, I know that… • many everyday devices respond to commands • **pushing a button can cause something to happen (a reaction) e.g. mouse button, on/off, icon** • Pushing an accurate sequence of buttons results in a reaction (outcome) e.g. bee bot, floor turtles	As a technology user, I can… • give instructions to my friend and follow their instructions to move around • **describe what happens when I press buttons on a robot** • **press the buttons in the correct order to make my robot do what I want** • describe what actions I will need to do to make something happen and begin to use the word 'algorithm' • begin to predict what will happen for a short sequence of instructions • **use the word 'debug' when I correct mistakes, when programming** As a technology user, I know that… • buttons must be pressed in a correct order to make a robot do certain things • using software/apps creates movement and patterns on a screen • an algorithm is a set of rules/instructions (followed by a device) • an algorithm is written to solve a problem or achieve a particular outcome • sometimes algorithms are wrong and need to be 'de-bugged' • debug means to remove errors from a device	As a technology user, I can… • **give instructions to my friend (using forward, backward and turn) and physically follow their instructions** • **explain the order I need to do things to make something happen, and talk about this as an algorithm** • **look at my friend's program and explain what will happen** • **watch a program execute and spot where it goes wrong so that I can debug it** As a technology user, I know that… • programming a robot or software makes it do a particular task • using programming software can make objects move • an algorithm's outcomes can be predicted • algorithms need to be written in the correct language in order for the device to understand them; this is called a program

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Information Technology: Foundations (How?)	As a technology user, I can… • **turn on a device** • login, with support • move a cursor around the screen with a mouse • **recognise the basic parts of a computer (mouse, screen/monitor, keyboard)** • use a tablet to take pictures • record my own voice or sounds, with support • use a keyboard in my play to demonstrate it enters text into a device • type my name • use the space bar • use a paint package to draw a simple picture As a technology user, I know that… • **a button may need to be pressed to turn on a device** • **a computer has a screen, mouse and keyboard** • there are two main types of keyboard, physical (e.g. desktop computer) and touch screen (e.g. tablet / phone) • sound can be recorded and played back	As a technology user, I can… • **login** • **use the space bar** • use the Return key • use both hands on the keyboard • open programs, with support • save work, with support • retrieve work, with support • **name the basic parts of a computer (mouse, screen/monitor, keyboard)** • navigate 'back' by clicking on the 'backspace' button • add captions or sound to drawn pictures, digital images or video • sort different kinds of information and present it to others, with support e.g. pictogram, Venn diagram • change the width, size, colour or pattern of the paintbrush in a paint package As a technology user, I know that… • **a username and a password is used to log in** • **I need to move a mouse to move the cursor** • work can be printed using the Print icon • digital pictures and video can be saved • **a keyboard is used to enter text** • using the Shift key creates a capital letter • the delete/backspace key is used if a letter is mistyped or repeated • the cursor must be moved to a text box before text can be typed in to it • **there are various tools in a paint package.** e.g. brushes, spray can, fill tool, stamps	As a technology user, I can… • **open programs** • **save work** • **retrieve work** • **practise keyboard skills using both hands: try to use more than two fingers; try to use the thumb on the spacebar** • **save work using the 'floppy disc' icon** • **retrieve work using the 'open folder' icon** • use music software to experiment, create and play my own compositions e.g. using Charanga & Purple Mash • make and save a chart or graph using the data I collect As a technology user, I know that… • **clicking on an icon will perform different tasks e.g. opening a programme** • an icon is an image that can be clicked on to perform a task • **a document can be edited by using the backspace to delete letters, space bar to add spaces, shift key to add capital letters & punctuation** • **the mouse or arrow keys can be used to move the cursor** • **selecting and using the correct tools creates a picture** • the keyboard has a number of keys that can aid word processing e.g. shift, Ctrl, tab • the style, size and colour of a font can be changed

		• all electronic devices need a power source (mains or battery) • a web page is a page of information • web pages all have different addresses (see in the toolbar at the top) • email is a way to communicate with people, which sends messages back and forth through the internet; to do this you need an email address for both yourself and person you wish to email • to retrieve a document you need to know what the file is called, what file type it is and where it was stored • images and text can be copied	• there is a sequence of instructions to follow in order to save and retrieve a file, and shut a computer down correctly • a computer needs to be shut down correctly otherwise it will not be able to follow the correct sequence to re-start • many programs can be closed by clicking on the cross in the top right corner • some digital devices (e.g. printer) can be connected to a computer
Vocabulary	mouse, screen/monitor, keyboard, iPad, tablet, laptop, cd player, cd, screen time, device, button, cursor, robot, beebot	icon, desktop, log in, online safety, save, username, password, algorithm, websites, devices, technology, command, control, bug, debug, instructions, tool, shift, space return, tab, delete / backspace, log on, log off, print	search, internet, personal information, program, data, graph, word processing, retrieve, floppy disk, editing, document