Computing skills and internet safety knowledge progression 2022-2023

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
E-safety Knowledge	Cross-over with PSHE curriculum: many of these aspects will be covered in PSHE sessions and can be extended to lay the foundations for online safety awareness. Introduces the idea of ownership and privacy. How to recognise when you are not comfortable with something. The concept of a helping hand of people to get support from. The idea of how to say no to something. Keeping healthy; link to screentime. Being kind.	To log in safely. To start to understand the idea of 'ownership' of their creative work. To learn how to find saved work in the Online Work area and find teacher comments. To learn how to search to find resources. To become familiar with the types of resources available in the Topics section. To become more familiar with the icons used in the resources in the Topics section. To start to add pictures and text to work. To use buttons: Save, Print, Open, New. To explore the Games To understand the importance of logging out when they have finished.	To know how to refine searches using the Search tool. To know how to share work electronically using the display boards. To use digital technology to share work on Purple Mash to communicate and connect with others locally. To have some knowledge and understanding about sharing more globally on the Internet. To introduce Email as a communication tool. To understand how we talk to others when they are not there in front of us. To open and send simple online communications in the form of email. To understand that information put online leaves a digital footprint or trail. To begin to think critically about the information they leave online. To identify the steps that can be taken to keep personal data and hardware secure. To gain a better understanding of searching the Internet.	To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. To understand how the Internet can be used to help us to communicate effectively. To understand how a blog can be used to help us communicate with a wider audience. For pupils to consider if what they read on websites is true? To look at a 'spoof' website. To create a 'spoof' webpage. To think about why these sites might exist and how to check that the information is accurate. To learn about the meaning of age restrictions symbols on digital media and devices. To discuss why PEGI restrictions exist. To know where to turn for help if they see inappropriate content or have inappropriate contact from others. To learn how to use email safely.	To understand how pupils can protect themselves from online identity theft. Understand that information put online leaves a digital footprint or trail and that this can aid identity theft. To Identify the risks and benefits of installing software including apps. To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. To identify the positive and negative influences of technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives. To assess whether an information source is true and reliable.	To gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology. To review pupils' responsibility to one another in their online behaviour. To know how to maintain secure passwords. To understand the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this. To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. To learn about how to reference sources in their work To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. Ensuring reliability through using different methods of communication.	Identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g. apps accessing location. Identify secure sites by looking for privacy seals of approval, e.g. https, padlock icon. Identify the benefits and risks of giving personal information and device access to different software. To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user. To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. To begin to understand how information online can persist and give away details of those who share or modify it. To understand the importance of balancing game and screen time with other parts of their lives, e.g. explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health. To identify the positive and negative influences of technology on health and the environment. To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria.

Computer Science						
To be able to describe a route taken by another person while it is being enacted. To be able to follow a route taken by another person after it has been enacted. To plan routes for toy vehicles To use the buttons on a floor robot to make it move. This includes choosing pens and style and composing drawn images on screen. It also includes the undo function. The use of a tablet is suggested as well as a mouse to enable children to mark make using touch.	I can explain that an algorithm is a set of instructions. I know that a computer program turns an algorithm into code that the computer can understand. I can work out what is wrong when the steps are out of order in instructions. I can say that if something does not work how it should it is because my code is incorrect. I can try and fix my code if it isn't working properly. I can make good guesses of what is going to happen in a program. For example, where the turtle might go	I can explain an algorithm is a set of instructions to complete a task. I know I need to carefully plan my algorithm so it will work when I make it into code. I can design a simple program that achieves a purpose. I can find and correct some errors in my program. I can say what will happen in a program. I can spot something in a program that has an action or effect (does something).	I can make a real-life situation into an algorithm for a program. I can design an algorithm carefully, thinking about what I want it to do and how I can turn it into code. I can identify an error in my program and fix it. I can experiment with timers in my programs. I can identify the difference in using between the effect of a timer or repeat command in my code. I know that a variable stores information while a program is running (executing). I can identify 'If' statements, repetition and variables. I can read programs with several steps and predict what it will do. I can identify different ways that the internet can be used for communication. I can use email to respond to others appropriately and attach files.	I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code. I can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered. I can use timers within my program designs more accurately to create repetition effects. For example, I can create a counting machine. I can use selection (decision) in my programming. For example, using an 'if statement' for a question being asked and the program takes one of two paths. I can use variables within my program and know how to change the value of variables. I can use the user inputs and output features within my program, such as 'Print to screen'. I can identify errors in my code by using different methods, such as steeping through lines of code and fixing them. I can read programs that contain several steps and predict the outcomes with increasing accuracy. I recognise the main component parts of hardware which allow computers to join and form a network. I understand that network and communication components can be found in many different devices which allow them to join the internet.	I can make more complex real-life problems into algorithms for a program. I can test and debug my programs as I work. I can convert (translate) algorithms that contain sequence, selection and repetition into code that works. I can use sequence, selection, repetition, and some other coding structures in my code. I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently. I can use logical methods to identify the cause of any bug with support to identify the specific line of code. I know the importance of computer networks and how they help solve problems and enhance communication. I recognise the main dangers that can be perpetuated via computer networks. I can explain what personal information is and know strategies for keeping this safe. I can use the most appropriate form of online communication according to the digital content.	I can turn a complex programming task into an algorithm. I can identify the important aspects of a programming task (abstraction). I can decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work. I can test and debug my program as I work on it and use logical methods to identify a cause of a bug. I can identify a specific line of code that is causing a problem in my program and attempt a fix. I can translate algorithms that include sequence, selection and repetition into code and nest these structures within each other. I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object I can interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program as a whole. I can explain the difference between the internet and the World Wide Web. I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.

information technology							
A selection of role-play ideas for including technology in play. Ideas for using photos in the classroom. How to upload images; a variety of devices and connections are suggested but will need to be adapted to the resources available in the school. How to make use of recording tools. Children will also create music using the tools. This includes simple typing, capital letters and function keys such as 'enter'. Activities are included that match lower-case and capital letters as most keyboards that children encounter will contain capital letters. It also includes recognising different fonts for example, an 'a' written a or a. Children can also combine mouse skills and typing skills using the mouse or arrow keys to control the cursor when writing. This includes clicking, navigating using the movement of the mouse and dragging and dropping. The activities aim to support children in developing the hand-eye coordination and fine-motor skills required to operate a mouse effectively. A typical laptop touchpad is also introduced.	I can sort sound, pictures and text. I can add sound, pictures and text to a program. I can change content on a file such as text, sound and images. I can name my work. I can save my work. I can find my work.	I can organise data – for example, using a database. I can find data using specific searches. I can use several programs to organise information – for example, using binary trees. I can edit digital data such as data in music composition software. I can name, save and find my work. I can include photos, text and sound in my creations.	I can carry out searches to find digital content on a range of online systems. I can collect data and input it into software. I can analyse data using features within software. I can present data and information using different software. I can consider what the most appropriate software to use when given a task by my teacher. (Across units) I can create purposeful (appropriate) content and attach this to emails.	I understand the purpose of a search engine and the main features within it. I can look at information on a webpage and make predictions about the accuracy of information contained within it. I can create and improve my solutions to a problem based on feedback. I can review solutions that others have created, using a checklist of criteria. I can work collaboratively to create content and solutions. I can share digital content using a variety of applications.	I can search precisely when using a search engine. For example, I know I can add additional words or removes words to help find better results. I can explain in detail how accurate, safe and reliable the content is on a webpage. I can make appropriate improvements to digital work I have created. I can comment on how successful a digital solution is that I have created. I can work collaboratively with others creating solutions to problems using appropriate software. I can use collaborative modes to work with others and share it.	I can use filters when searching for digital content. I can explain in detail how accurate and reliable a webpage and its content is. I can compare a range of digital content sources and rate them in terms of content quality and accuracy. I can consider the intended audience carefully when I design and make digital content. I can design and create my own online blogs. I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital literacy	Introduces knowledge about the parts of a computer and how to look after equipment. Basic computer hygiene, including handwashing, being gentle and keeping food and drinks away from devices.	I can say what technology is. I can say what examples of technology are in school. I can say what examples of technology are at home. I know that a chair uses old technology and a smart phone uses new technology. I can keep my login information safe. I can save my work in a safe place such as 'My Work' folder.	I can find information I need using a search engine. I know the consequences of not searching online safely. I can share work and communicate electronically. I can report unkind behaviour and things that upset me online, to a trusted adult. I can see where technology is used at school such as in the office or canteen. I understand that my creations need similar skills to the adult world. e.g. The program used for collecting money for school trips.	I can create a secure password. I can explain the importance of having a secure password and not sharing it with others. I can explain the negative consequences of not keeping passwords safe and secure. I understand the importance of keeping safe online and behaving respectfully. I can use communication tools respectfully and use good etiquette. I can report unacceptable content and contact online in more than one way to a trusted adult.	I have a good understanding of the online safety rules we learn at school. I can demonstrate how to use different online technologies safely. I can demonstrate how to use a few different online services safely. I know I have a right to privacy both on and offline. I recognise that my wellbeing can be affected by how I use technology. I can report with ease any concerns with content and contact online and know immediate strategies to keep safe.	I have a secure knowledge of online safety rules taught at school. I can demonstrate the safe and respectful use of different online technologies and online services. I always relate appropriate online behaviour to my right to have personal privacy. I know how to not let my mental wellbeing or others be affected by use of online technologies and services.	I can demonstrate safe and respectful use of a range of different technologies and online services. I can identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else. I can use critical thinking to help me stay safe online. I know the value of protecting my privacy and others online.