Computing Progression Document

To note, this document is in progress. Next step is to work firstly with the Computing Leads, then with the wider staff team, to make choices on content to cover within our curriculum and content to not cover, consciously considering rationale.

It is also understood Technology is no longer a strand within EYFS curriculum – however elements (especially digital literacy) remain relevant and we are also consciously making decisions to ensure children are Year 1 ready.

	Information Technology	**Computer Science**	**Digital Literacy**
Reception	**Word processing/typing** Know how to play on a touch screen game and use computers/keyboards/mouse in role play. Know how to type letters with increasing confidence using a keyboard and tablet. Know how to dictate short, clear sentences into a digital device. **Data handling** Know how to sort physical objects, take a picture and discuss what I have done. **Sound** Know how to record sounds with different resources. Know how to find ways to change your voice (tube, tin can, shouting to create an echo). Know how to record sounds/voices in storytelling and explanations.	**Computational thinking** Begin to understand an algorithm is a sequence of instructions or set of rules to get things done. (Algorithms). Follow a simple algorithm by responding to oral instructions. (Algorithms). Begin to make my own simple algorithms by sequencing actions. (Algorithms). Start to explain my thought process and justify my decisions. (Logical reasoning) . **Coding and programming** Learn how digital toys and apps work through exploration (Tinkering). Input more than one command into a programmable toy or simple app. Input a sequence of commands into a programmable toy or simple app.	N/A

		Fix things through trial and error (Debugging). Fix things and explain my approach (Debugging).	
Year 1	**Word processing/typing** Know how to confidently type words quickly and correctly on a digital device. Know how to use the space bar to make space and delete to delete letters/ words Know how to make a new line using enter/return. Know how to dictate into a digital device. **Presentations, web design, and e-Book creation** Know how to add labels to an image. Know how to order images to create a simple storyboard. Know how to sequence a series of pictures to explain my understanding of a topic. **Animation** Know how to create an animation to tell a story with more than one scene. Know how to add my own pictures to my story animation. **Video creation** Know how to record a film using the camera app. Know how to select images and record a voiceover.	**Computational thinking** Understand what algorithms are. Know how to write simple algorithms. Understand the sequence of algorithms is important. Know how to debug simple algorithms. **Coding and programming** Know how to create a simple program on a digital device e.g. Bee Bot or tablet. Know how to use sequence in programs. Know how to locate and fix bugs in my program. Activities: Robot Maze game -Scratch	**Self image and identity** Recognise that there may be people online who could make me feel sad, embarrassed or upset. If something happens that makes me feel sad, worried, uncomfortable or frightened, give examples of when and how to speak to an adult I can trust. **Online relationships** Give examples of when I should ask permission to do something online and explain why this is important. Use the internet with adult support to communicate with people I know (e.g. video call apps or services). Explain why it is important to be considerate and kind to people online and to respect their choices. Explain why things one person finds funny or sad online may not always be seen in the same way by others. **Online reputation** Recognise that information can stay online and could be copied. Describe what information I should not put online without asking a trusted adult first.

			Online bullying Describe how to behave online in ways that do not upset others and can give examples. **Managing online information** Give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching). Know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. Know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened. **Health , well-being and lifestyle** Explain rules to keep myself safe when using technology both in and beyond the home. **Privacy and security** Explain that passwords are used to protect information, accounts and devices. Recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). Explain why it is important to always ask a trusted adult before sharing

			any personal information online, belonging to myself or others. **Copyright and ownership** Explain why work I create using technology belongs to me. Say why it belongs to me (e.g. 'I designed it' or 'I filmed it"). Save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content). Understand that work created by others does not belong to me even if I save a copy.
Year 2	**Word processing/typing** Know how to use the space bar only once between words and use touch to navigate to words letter to edit. Know how to copy and paste images and text. Know how to use caps locks for capital letters. Know how to add images alongside text in a word processed document. **Presentations, web design, and e-Book creation** Know how to add voice labels to an image. Know how to add a voice recording to a storyboard. Know how to import images to a project from the web and camera roll. **Video creation** Know how to write and record a script using a teleprompter tool. Know how to use tools to add effects to a video.	**Computational thinking** Know how to write algorithms for everyday tasks. Know how to use logical reasoning to predict the outcome of algorithms. Understand decomposition is breaking objects/processes down. Know how to debug algorithms. **Coding and programming** Understand programs follow precise instructions. Know how to create programs using different digital devices E.g. Bee Bot or ScratchJr on a tablet. Know how to debug programs of increasing complexity. Know how to use logical reasoning to predict the outcome of simple programs.	**Self image and identity** Explain how other people may look and act differently online and offline. Give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; give examples of how they might get help. **Online relationships** Give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country). Explain who I should ask before sharing things about myself or others online.

| | Know how to begin to use green screen techniques with support. | | Describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure.
Explain why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do.
Identify who can help me if something happens online without my consent.
Explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online.
Explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online .

Online reputation
Explain how information put online about someone can last for a long time.
Describe how anyone's online information could be seen by others.
Know who to talk to if something has been put online without consent or if it is incorrect.

Online bullying
Explain what bullying is, how people may bully others and how bullying can make someone feel. |

				Explain why anyone who experiences bullying is not to blame. Talk about how anyone experiencing bullying can get help.

Managing online information
Use simple keywords in search engines.
Demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). Explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri).
Explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.
Explain why some information I find online may not be real or true.

Health, well-being and lifestyle
Explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.
Say how those rules / guides can help anyone accessing online technologies.

			Privacy and security Explain how passwords can be used to protect information, accounts and devices. Explain and give examples of what is meant by 'private' and 'keeping things private'. Describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). Explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions). **Copyright and ownership** Recognise that content on the internet may belong to other people. Describe why other people's work belongs to them.
Year 3	**Word processing/typing** Know how to edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows. Know how to use cut, copy and paste to quickly duplicate and organise text. **Presentations, web design, and e-Book creation** Know how to create an interactive comic with sounds, formatted text and video. Know how to annotate an image with videos. Know how to create a simple web page. Know how to design a simple app prototype.	**Computational thinking** Know how to create algorithms for my programming projects. Know how to decompose projects (such as an animation) into steps to create an algorithm. Understand abstraction is focusing on important information. Know how to identify patterns in an algorithm. **Coding and programming** Know how to design a program.	**Self image and identity** Can explain what is meant by the term 'identity'. Explain how people can represent themselves in different ways online. Explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why.

Animation
Know how to create animations of faces to speak in role with more life-like realistic outcomes (Chatterpix).

Know how to create a program using a design.
Know how to create a sequence of code.
Know how to work with a variety of inputs and outputs.
Know how to evaluate my program.

Computer networks
Understand that the computers in a school are connected together in a network.
Understand why computers are networked.

Online relationships
Describe ways people who have similar likes and interests can get together online.
Explain what it means to 'know someone' online and why this might be different from knowing someone offline.
Explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.
Explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried.
Explain how someone's feelings can be hurt by what is said or written online.
Explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos.

Online reputation
Explain how to search for information about others online.
Give examples of what anyone may or may not be willing to share about themselves online. I can explain the

need to be careful before sharing anything personal.
Explain who someone can ask if they are unsure about putting something online.

Online bullying
Describe appropriate ways to behave towards other people online and why this is important.
Give examples of how bullying behaviour could appear online and how someone can get support.

Managing online information
Demonstrate how to use key phrases in search engines to gather accurate information online.
Explain what autocomplete is and how to choose the best suggestion.
Explain how the internet can be used to sell and buy things.
Explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc.
Explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed). Describe and demonstrate how we can get help from a trusted adult if we see content that makes

			us feel sad, uncomfortable worried or frightened.
			Health, well-being and lifestyle Explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged (e.g. doing homework, games, films, videos). Explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites). **Privacy and security** Describe simple strategies for creating and keeping passwords private. Give reasons why someone should only share information with people they choose to and can trust. Explain that if they are not sure or feel pressured then they should tell a trusted adult.

			Describe how connected devices can collect and share anyone's information with others. **Copyright and ownership** Explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.
Year 4	**Word processing/typing** Know how to combine digital images from different sources, objects, and text to make a final piece of a variety of tasks. Know how to confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text. Know how to use font sizes appropriately for audience and purpose. Use spell check and thesaurus including through Siri and other AI technology. **Presentations, web design, and e-Book creation** Know how to create an interactive eBook introducing hyperlinks. Know how to create an eBook with text, images and sound. Know how to create a presentation demonstrating my understanding with a range of media. **Video creation** Know how to add music and sound effects to my films. Know how to add animated titles and transitions. Know how to add simple subtitles to a video clip.	**Computational thinking** Know how to use abstraction to focus on what's important in my design. Know how to write more precise algorithms for use when programming. Know how to use simple selection and repetition in algorithms. Know how to use logical reasoning to detect and correct errors in programs. **Coding and programming** Know how to use repetition in programs. Know how to use simple selection in programs. Know how to work with a variety of inputs and outputs. Know how to use logical reasoning to systematically detect and correct errors in program.	**Self image and identity** Explain how my online identity can be different to my offline identity. Describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. Explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this. **Online relationships** Describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms). Give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. Explain how content shared online may feel unimportant to one person but may be important to other

Photography and digital art
Know how to enhance digital images and photographs using crop, brightness, contrast & resize.
Know how to manipulate shapes to create digital art.

Sound
Know how to edit sound effects for a purpose.
Know how to create a simple four chord song following the correct rhythm.

Computer networks
Understand that servers on the Internet are located across the planet.
Understand the difference between the Internet and WWW.
Understand how web pages are viewed across the internet.

Activities:
Lego We Do if possible
Platform Game – Scratch

people's thoughts feelings and beliefs.

Online reputation
Describe how to find out information about others by searching online.
Explain ways that some of the information about anyone online could have been created, copied or shared by others.

Online bullying
Recognise when someone is upset, hurt or angry online.
Describe ways people can be bullied through a range of media (e.g. image, video, text, chat).
Explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).

Managing online information
Analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.
Describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g.

social media, image sites, video sites). Describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online.

Explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. Explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be.

Explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.

Health, well-being and lifestyle
Explain how using technology can be a distraction from other things, in both a positive and negative way. Identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.

Privacy and security
Describe strategies for keeping personal information private, depending on context.

			Explain that internet use is never fully private and is monitored, e.g. adult supervision. Describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. Know what the digital age of consent is and the impact this has on online services asking for consent. **Copyright and ownership** When searching on the internet for content to use, explain why I need to consider who owns it and whether I have the right to reuse it. Give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images.
Year 5	**Word processing/typing** Know how to apply other useful effects to my documents such as hyperlinks. Know how to organise and reorganise text on screen to suit a purpose. **Presentations, web design, and e-Book creation** Know how to create and export an interactive presentation including a variety of media, animations, transitions and other effects (e.g. Padlet, BookCreator, iMovie).	**Computational thinking** Know how to solve problems by decomposing them into smaller parts. Know how to use selection in algorithms. Know how to use logical reasoning to explain how a variety of algorithms work. Know how to evaluate the effectiveness of algorithms **Coding and programming**	**Self image and identity** Explain how identity online can be copied, modified or altered. Demonstrate responsible choices about my online identity, depending on context. **Online relationships** Give examples of technology specific forms of communication (e.g. emojis, memes and GIFs).

Animation
Know how to record animations of different characters and edit them together to create an interview.

Video creation
Know how to use cutaway and split screen tools in iMovie.
Know how to evaluate and improve the best video tools to best explain my understanding.

Photography and digital art
Know how to make a digital photo using camera settings.
Know how to enhance digital photos and images using crop, brightness and resize tools.
Know how to link and explain how to photoshop images and how this is used in the media.

AR and VR
Know how to create an animated object and bring it into my surroundings through AR.

Sound
Know how to add voice over and edit sound clips (volume, pitch, fade, effect) to create a podcast.
Know how to create a remix of a popular song.

Know how to create programs by decomposing them into smaller parts.
Know how to use a variety of selection commands in programs.
Know how to use conditions in repetition commands.
Know how to work with variables.
Know how to create programs that control or simulate physical systems.
Know how to evaluate my work and identify errors.

Computer networks
Know how to use search technologies effectively.
Appreciate how pages are ranked in a search engine .

Activities:
Lego We Do if possible
Quizzes – Scratch

Explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my / our fault.
Describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups). Explain how someone can get help if they are having problems and identify when to tell a trusted adult.
Demonstrate how to support others (including those who are having difficulties) online.

Online reputation
Search for information about an individual online and summarise the information found.
Describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect.

Online bullying
Recognise online bullying can be different to bullying in the physical world and can describe some of those differences.

Describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying.
Explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult.
Identify a range of ways to report concerns and access support both in school and at home about online bullying.
Explain how to block abusive users.
Describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).

Managing online information
Explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I aim presented with e.g. voice-activated searching giving one result.
Explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'.
Evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.

				Explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. Identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads. Describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers). Explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others. Describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful. Explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share. **Health, well-being and lifestyle** Describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively. Describe some strategies, tips or advice to promote

			health and wellbeing with regards to technology. Recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals. Explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing. **Privacy and security** Explain what a strong password is and demonstrate how to create one. Explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. Explain what app permissions are and can give some examples. **Copyright and ownership** Assess and justify when it is acceptable to use the work of others. Give examples of content that is permitted to be reused and know how this content can be found online.

| Year 6 | **Word processing/typing**
Know how to confidently choose the best application to demonstrate my learning.
Know how to format text to suit a purpose.
Know how to publish my documents online regularly and discuss the audience and purpose of my content.

Animation
Know how to mix animations and videos recordings of myself to create video interviews.
Know how to plan, script and create a 3D animation to explain a concept or tell a story. Know how to choose and create different types of animations to best explain my learning.

Video creation
Know how to use picture in picture tools in iMovie.
Know how to add animated subtitles to my film to further enhance my creation.

Photography and digital art
Know how to edit a picture to remove items, add backgrounds, merge 2 photos.
Know how to evaluate and discuss images explaining effects and filters that have been used to enhance the media.
Know how to use a 3D drawing app to create a realistic representation of world objects.

AR and VR
Know how to create an interactive VR experience.
Know how to explain how VR and AR works. | **Computational thinking:**
Know how to decompose a design or code to focus on specific parts.
Know how to use abstraction to hide complexity in my design or code.
Know how to recognise and make use of patterns in my design and code.
Know how to critically evaluate my work and suggest improvements.

Coding and programing
Know how to use a range of sequence, selection and repetition commands to implement my design.
Know how to identify the need for, and work with, variables.
Know how to create procedures to hide complexity in programs.
know how to critically evaluate my work and suggest improvements.

Computer networks
Understand what HTML is and recognize HTML tags .
Know a range of HTML tags.

Activities:
Lego We Do if possible
Catching Game – Scratch | **Self image and identity**
Identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online. Describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline. Explain the importance of asking until I get the help needed.

Online relationships
Explain how sharing something online may have an impact either positively or negatively.
Describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not. Describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.
Explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; |

Sound
Know how to add voice over and edit sound clips (volume, pitch, fade, effect) to use in a film or radio broadcast (podcast).
Know how to compose a soundtrack that can be added to a film project.

and who can help if someone is worried about this.

Online reputation
Explain the ways in which anyone can develop a positive online reputation. Explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.

Online bullying
Describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.
Explain how someone would report online bullying in different contexts.

Managing online information
Explain how search engines work and how results are selected and ranked. Explain how to use search technologies effectively.
Describe how some online information can be opinion and can offer examples.
Explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting

			it does not necessarily make it true, fair or perhaps even legal. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news). Understand the concept of persuasive design and how it can be used to influences peoples' choices. Demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important. Explain how companies and news providers target people with online news stories they are more likely to engage with and how to recognise this. Describe the difference between online misinformation and dis-information. Explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation or disinformation). Identify, flag and report inappropriate content. **Health, well-being and lifestyle** Describe common systems that regulate age-related content (e.g.

			PEGI, BBFC, parental warnings) and describe their purpose. Recognise and can discuss the pressures that technology can place on someone and how / when they could manage this. Recognise features of persuasive design and how they are used to keep users engaged (current and future use). Assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise). **Privacy and security** Describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). Explain what to do if a password is shared, lost or stolen. Describe how and why people should keep their software and apps up to date, e.g. auto updates. Describe simple ways to increase privacy on apps and services that provide privacy settings. Describe ways in which some online content targets people to gain money or information illegally. Describe strategies to help me identify such content (e.g. scams, phishing). I know that online services have terms and conditions that govern their use.

			Copyright and ownership Demonstrate the use of search tools to find and access online content which can be reused by others. Demonstrate how to make references to and acknowledge sources I have used from the internet.