

Year: 3/4 Subject: Computing PoS: Online Safety- Digital literacy		Topic Question/Title: How can we stay safe online?	Term - Autumn 1	Curriculum - A
Prior Knowledge Children have completed online safety last year in Autumn 1, they will have also looked at online safety through PSHE and internet safety week. In year 2 children learnt- what is meant by permission, what it means to keep things private, whether they can always believe what they see online, understanding what belongs to them online, online bullying and then understanding how to show respect online. In year 3, children learnt- identity, how to be respectful online, understanding that information is always reliable as information can be changed, why it is important to limit time spent online and how to keep information private online.		Key Vocabulary Self-image, identity, online, internet, online relationships, online reputation, online bullying, responsible, online information, personal information, technology, privacy, security, ownership, copy right.	Outcome Children to create a presentation for another class- explaining how to stay safe online.	
Future Learning Children will continue this learning in any unit using the internet or devices. Online safety should be recapped at every opportunity. Children will also have internet safety day later in the year. Moving into year 4 children will learn- changing identity, trusting people online, how people’s feelings can be hurt online, sharing information online, online bullying and impacts of spending too much time online. Moving into year 5 children will learn- how to keep digital detail online safe, creating a positive digit footprint, ways to seek help online, understand that information can be manipulated online, age ratings and the sharing of information.		Stimulus Be internet legends game online. First hand experiences (enrichment)	World of Work General employment skills for a variety of jobs. Media Computer programmer/ designer Social media influencer.	
National Curriculum PoS		Key Knowledge	Possible evidence	
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		<u>Self- image and identity</u> I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. <u>Online relationships</u> I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. <u>Online reputation</u> I can explain ways that some of the information about anyone online could have been created, copied or shared by others. <u>Online Bullying</u> I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). I can 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). <u>Managing Online information</u> I can 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. I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. <u>Heath, well- being and Lifestyle</u> I can 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. <u>Privacy and Security</u> I can describe strategies for keeping personal information private, depending on context. I can explain that internet use is never fully private and is monitored, e.g. adult supervision. <u>Copyright and Ownership</u> When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.	Project evolve resources.	

Year: 3/4 Subject: Computing		Topic Question/Title: Connecting Computers		Term - Autumn 2	Curriculum - A	
PoS: Networks						
Prior Knowledge Children have completed a range of units in year 1/2 where the children developed their skills of using a variety of devices. They will have looked at iPads and Laptops as well as a range of software. Children have also already completed a unit on digital painting in year 1/2, where the children became familiar with the skills to make artwork on a device. Year 4’s will have also looked at photo editing in year 3 as well as using computers for a range of purposes.			Key Vocabulary Networks, digital devices, inputs, outputs, connections, network switch, server, wireless access point, WI-Fi.		Outcome Information video about networks.	
Future Learning Later in the year, the children will also complete a further unit in spring 2 about the internet. In this the children will investigate more detail about appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet and will be given opportunities to explore the World Wide Web for themselves to learn about who owns content and what they can access, add, and create. In year 5/6 children will continue to develop their understanding of devices as well as using different software for a range of purposes. Children will complete a unit on creating webpages, this will include looking into more detail about the internet and the importance of this.			Stimulus Network Scavenger hunt. First hand experiences (enrichment)		World of Work Computer Technician	
National Curriculum PoS - To use sequence, selection, and repetition in programs; work with variables and various forms of input and output - To 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 - To 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		Key Knowledge		Possible evidence		
		- To explain how computer systems can change the way that we work. - To recognise that a digital device is made up of several parts. - To recognise that computers can be connected to each other. - To explain how information s passed through multiple connections. - To identify the benefits of computer networks. <u>Online Safety Focus:</u> <u>Self- image and identity</u> I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. <u>Heath, well- being and Lifestyle</u> I can 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.		- Barefoot computing network scavenger hunt- https://www.barefootcomputing.org/resources/network-hunt-activity - Show learners images of a range of objects, and ask them how they would sort them into two groups. Record their responses and discuss ideas, eg “objects that are the same colour”, “objects that have buttons”, or “things that you play on”. - To explore a range of input and output devices. Input devices: Keyboard, mouse, microphone, button (on a pedestrian crossing), Output devices: Speakers, monitor, printer, traffic lights (on a pedestrian crossing) - Becoming a computer network- passing messages between children and then to introduce the idea of a switch into the network.		
		Application of Key Skills		Possible evidence		
		- To explain that a computer accepts and input and processes it to produce an output. - To explain how a computer network can be used to share information. - To explain the role of a switch, serve and wireless access point in a network. - To identify network devices around me. - To explain how networks can be connected to other networks.		- Use their understanding of inputs and outputs to invent their own digital device. - Comparing art-based activities using digital devices and non-digital tools- painting a picture and painting on Paint on the computer. - Role-play of the computer network. - Demonstrate the journey of a file on the server to a wireless device. - Learners to take photographs of the various network components. They may also find other network devices, such as routers or firewalls.		

Year: 3/4 Subject: Computing PoS: Computer Science- Scratch		Topic Question/Title: Digital Decibels		Term - Spring 1	Curriculum - A 
Prior Knowledge Children will have looked at scratch junior in year 2, they will have looked at sequencing steps, sprites and designing an making a piece of scratch software. In these units, they will have looked at algorithms and debugging their steps to improve their designs. They will have looked bee-bots and looked at the programming involved in using these and creating these programmes. In year 3, the children will have looked at scratch, using the programme and algorithms to create a game. They will have designed, created and evaluated their games. As well as using sequencing, debugging and selection skills.			Key Vocabulary Programme, scratch, sequence, order, sprite, debugging, code, costumes, back drops,		Outcome Piece of music/ digital musical instrument
Future Learning In year 5/6, the children will continue to develop this learning through looking at scratch in more detail. They will use what they have learnt in this unit to then create games incorporating variables. They will also incorporate selection into their scratch units. They will design, create and evaluate their games and quizzes on scratch. They will use their debugging skills to make improvements to their projects and solve any problems that they might encounter.			Stimulus Listening to music First hand experiences (enrichment)		World of Work Music Technician / Advertising
National Curriculum PoS - 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 - 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		Key Knowledge		Possible evidence	
		- To explain that programs start because of an input - To explain what a sequence is. - To identify that the sequence of a program is a process. - To explain that the order of commands can affect a program’s output. - To identify that different sequences can achieve different outputs. <u>Online safety Focus:</u> <u>Online relationships</u> I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. <u>Online reputation</u> I can explain ways that some of the information about anyone online could have been created, copied or shared by others.		Begin by comparing Scratch to other programming environments they may have experienced, before familiarising themselves with the basic layout of the screen. Introduce the concept of sequences by joining blocks of code together. Learn how event blocks can be used to start a project in a variety of different ways. Design and create their own project, including sequences, sprites with costumes, and multiple backdrops.	
		Application of Key Skills		Possible evidence	
		- To build a sequence of commands. - To combine commands in a program. - To order commands in a program. - To create a sequence of commands to produce a given outcome.		Create movement for more than one sprite. Design and implement their code and create code to replicate a given outcome. Experiment with new motion blocks. Experiment with sequences where order is and is not important. They will create their own sequences from given designs. Learn how to use costumes to change the appearance of a sprite, and backdrops to change the appearance of the stage.	

Year: 3/4 Subject: Computing PoS: Information Technology		Topic Question/Title: World Wide Explorers	Term - Spring 2	Curriculum - A	
Prior Knowledge Children have completed a range of units in year 1/2 where the children developed their skills of using a variety of devices. They will have looked at iPads and Laptops as well as a range of software. Children have also already completed a unit on digital painting in year 1/2, where the children became familiar with the skills to make artwork on a device. In Autumn 2, the children completed a unit all about networks. In this unit the children looked at how computers are connected, how they send information and what parts make up the different parts of a network.			Key Vocabulary Networks, website, webpages, content, media, key features, reliable, devices.	Outcome Online Safety Assembly	
Future Learning The children will continue their learning of online safety in every year. They will also use the internet in a variety of units both in year 3/4 and year 5/6. In year 5/6 children will continue to develop their understanding of devices as well as using different software for a range of purposes. Children will complete a unit on creating webpages, this will include looking into more detail about the internet and the importance of this.			Stimulus Chrome music lab. First hand experiences (enrichment)	World of Work Web designer/ Marketing	
National Curriculum PoS - 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.	Key Knowledge		Possible evidence		
	- To describe how networks, connect to other networks - To outline how information can be shared via the World Wide Web - To recognise that the World Wide Web is part of the internet - To recognise the need for security on the internet - To explain that the World Wide Web comprises of websites and web pages - To describe the types of content/media that can be added, created, and shared on the World Wide Web - To evaluate the reliability of content and the consequences of unreliable content To explain the benefits and limitations of the World Wide Web Online Safety Focus: Managing Online information I can 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. I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.		- Explain how the internet lets us view the World Wide Web and recognise that the World Wide Web is part of the internet, which contains websites and web pages. - Children will analyse a website and identify the key parts. Then consider what content can be added to websites and what factors they should consider before adding content to a website. Finally, they will use a website which enables them to create their own content online. - Explore who owns the content on the World Wide Web (or ‘web’ for short). They will explore a variety of websites and will investigate what they can and cannot do with the content on them. - Review images and decide whether or not they are real, before looking at why web searches can return ambiguous (and sometimes misleading) results.		
	Application of Key Skills		Possible evidence		
	- To use the internet to access the World Wide Web. - To identify the pages and features of a website and webpages.		- Explore how a network can share messages with another network to form the internet. - Explore what can be shared on the World Wide Web and where websites are stored. They will also explore how the World Wide Web can be accessed on a variety of devices.		

Year: 3/4 Subject: Computing		Topic Question/Title: Publish This!		Term - Summer 1	Curriculum - A	
Prior Knowledge Children in year 3 have looked at presenting information using text ease in year B. They have looked at typing, adding text and information. They have manipulated images and they have manipulated text. The have looked at turning on computers, opening and saving documents and switching off a computer safely. Children in year 4 have used word to present information using PowerPoints in year B. In this the children have learnt to type effectively. Adding text, information and images. They have used the internet safely and used that to find images to insert into their document. They have added in the relevant text and looked at how this fits the purpose of the text		Key Vocabulary Desktop publishing, word, text, font, colour, layout, orientation, keys, save, open, template, images, insert.		Outcome Edited text for purpose		
Future Learning Children will move onto in 5/6 to look in more detail about effective ways to present information. They will build on and use these skills to create more complex PowerPoints. They will also look at manipulating text and images for a purpose in the webpage creation unit. They also have a spreadsheets unit where they will look at imputing data in order to present the information and data further.		Stimulus Posters / Books / Adverts First hand experiences (enrichment)		World of Work Journalist /Author/ Publisher		
National Curriculum PoS - To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - To 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		Key Knowledge - To recognise how text and images can be used together to convey information. - To consider how different layouts can suit different purposes - To recognise how different font styles and effects are used for particular purposes - To consider the benefits of using a desktop publishing application. <u>Online Safety Focus:</u> <u>Privacy and Security</u> I can describe strategies for keeping personal information private, depending on context. I can explain that internet use is never fully private and is monitored, e.g. adult supervision. <u>Copyright and Ownership</u> When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.		Possible evidence - Give advantages and disadvantages of using text, images, or both text and images to communicate messages effectively. - Make careful choices regarding font size, colour, and type in an invitation. - Look at a range of page layouts such as letters and newspapers, and begin to think about the purpose of each of these. - Explain what desktop publishing means in their own words. They will think about how desktop publishing is used in the wider world and consider the benefits of using desktop publishing applications.		
		Application of Key Skills		Possible evidence		
		- To show that page orientation can be changed - To organise text and image placeholders in a page layout - To add and remove images to and from placeholders - To move resize and rotate images - To choose fonts and apply effects to text - To review a document.		- Become familiar with the terms ‘text’ and ‘images’ and understand that text and images need to be used carefully to communicate messages clearly. - The use of the Return, Backspace, and Shift keys will be explored and children to be taught how to type age-appropriate punctuation marks. - Introduce to the terms 'templates', 'orientation', and 'placeholders' within desktop publishing software. Then create their own magazine template, which they will add content to during the next lesson. - Copy information for the front of their magazine from a prewritten document and paste it into the chosen place on their magazine cover. Images will be added from within the search facility in word. - Children to create their own edited text on word using, fonts, layout, colour and pictures.		

Year: 3/4 Subject: Computing PoS: Computer Science		Topic Question/Title: Bug Fixers		Term - Summer 2	Curriculum - A	
Prior Knowledge Children have already completed one unit of work on Scratch this year. This means that children will now be familiar with scratch and the basic functions that it has. Children will know how to sequence and they will understand that commands need to have an order. Children will be familiar with writing simple programmes and debugging simple problems.			Key Vocabulary Sprite, code, scratch, program, outcome, order, events and Actions, backgrounds, duplicate, blocks, sequence, program, design, and project.		Outcome Maze tracing game.	
Future Learning In year 4- Children will be looking at using their skills to create their own games by using repetition within code and algorithms. Children will have the chance to continue developing sequencing, problem solving and debugging skills. In year 5/6 children will look at selection within scratch. They will use algorithms and variable to produce quizzes with specific outcomes. The children here will have to code, sequence, debug and decompose using all the skills they have learnt throughout the previous years. The children will be faced with more complicated codes, and they will have to use logical reasoning to detect errors and correct any mistakes.			Stimulus/ First hand experiences (enrichment) Scratch- Broken Game- What's gone wrong?		World of Work Game Programmer, Game developer	
National Curriculum PoS 1. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 2. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output 3. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 4. 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		Key Knowledge		Possible evidence		
		- To explain that programs start because of an input - To explain what a sequence is - To identify that a program includes sequences of commands - To identify that the sequence of a program is a process - To explain that the order of commands can affect a program’s output - To identify that different sequences can achieve same and different outputs <u>Online Safety Focus: Online Bullying</u> I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). I can 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).		Children begin by moving a sprite in four directions (up, down, left, and right). They then explore movement within the context of a maze, using design to choose an appropriately sized sprite. This unit also introduces programming extensions, through the use of Pen blocks. Children are given the opportunity to draw lines with sprites and change the size and colour of lines. The unit concludes with learners designing and coding their own maze-tracing program.		
		Application of Key Skills		Possible evidence		
		- To build a sequence of commands - To combine commands in a program - To order commands in a program		Children to build their own maze-tracing program and then to run it. This will allow the children to fix, debug and improve any of the issues they find.		