



PHASE	Autumn	Spring	Summer
<p>KS1</p> <p>Education for a connected world All aspects are covered within My Online Life units (Teachers may wish to supplement this unit of work with resources from the education for connected world website.)</p>	<p style="text-align: center;">My Online Life</p> <p>Main Computing Concept: Digital Literacy</p> <p><u>Key Vocabulary</u> Online, communicate, search, online bullying, profile, copyright</p> <p><u>End Point of Learning</u> By the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> identify people they can trust and discuss concerns they may have about using the internet. (self Image) <p>(Y2 - discuss what safe sites/apps they can use and what sites/apps they shouldn't be using and why e.g. PEGI rating, age requirements, violent content. The child knows to talk to a trusted adult before sharing personal information.)</p> <ul style="list-style-type: none"> know how they should behave and interact with others in the real world and apply these behaviours in the online world. can discuss why it is very important not to over share, share things that are personal or may hurt other people. can describe ways that some people can be unkind online. (online bullying) <p>(Y2 - identify real and fictitious characters they interact with online or in games. They can talk about why it is important to be kind and polite online and in real life.)</p> <ul style="list-style-type: none"> know that in order to access the web they must open an app called a browser. The child can independently type into the search bar and use a search engine to find information, website or an image. 	<p style="text-align: center;">My Friend the Robot</p> <p>Main Computing Concept: Computer Science</p> <p><u>Key vocabulary</u> Processor, QR code, algorithm. Sequence, instructions, debug, program</p> <p><u>End point of Learning</u> By the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> understand algorithms as a sequence of instructions. (Y2 - explain what an algorithm is with an example) can create a simple everyday sequence of instructions and recognise this as an algorithm. (Y2- create, read and follow written sequence algorithms that include commands with additional detail to carry out a specific task) can use symbols to create a sequence of instructions and can press the buttons in the correct order to make a robot reach a desired destination. (Y2 - can implement their algorithm as a program on a digital device or programmable toy/robot) can describe what happens when they press a series of buttons on a robot or Bee bot. when errors occur, the child can debug (fix) the problem. (Y2 - explain what was wrong and how they fixed it while using the term debug in context.) save work into their own folders on OneDrive giving it a suitable name. 	<p style="text-align: center;">Making games</p> <p>Main Computing Concept: Computer Science</p> <p><u>Key Vocabulary</u> Repeat Backdrop Program Loops Characters Code Sequence Debug Execute/Run Upload Backdrop Images Code</p> <p><u>End point of learning:</u> By the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> create a simple program and correct mistakes (debug). (Y2 - independently identify and fix a 'bug' in multiple programs.) know the difference between inputs and outputs (Y2 - to create a program that contains selection, inputs and outputs.) plan out an algorithm with a sequence of commands to carry out specific tasks. predict the outcome of a sequence of blocks in Scratch. <p>Children will produce games in scratch.</p> <p><u>Sequence of Learning:</u></p> <ul style="list-style-type: none"> What are coding blocks? What is a repeat loop? Can you turn code into an algorithm? Can you create an algorithm and program to solve a problem? Can you create a game with



	<p>(Y2 - explain what a web address/URL is and can discuss how some information may be inaccurate or untrue. Independently use a search engine to find information to answer questions. Navigate to a website via favourites, bookmarks or typing in the URL to the address bar</p> <ul style="list-style-type: none"> understand that to use other people’s work without asking or giving credit is wrong. (copyright) (Y2 - understand that copyright is something that protects people stealing others work.) <p>Evidence from these sessions will be recorded in the class floor book or individual ppts.</p> <p><u>Sequence of Learning</u></p> <ul style="list-style-type: none"> Who can help us online? How should we communicate online? What should we share online? What is online bullying and how should we deal with it? Can you find information online? How should I behave online? What information shouldn’t we share online? Who owns the information on the internet? <p>NC objectives covered</p> <ul style="list-style-type: none"> 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 	<p>(Y2- save and open files on the device they use into the correct place with suitable name.</p> <p>Evidence from these sessions will be recorded by the children creating their own digital ppt.</p> <p><u>Sequence of Learning</u></p> <ul style="list-style-type: none"> What is a robot? How do you give robots instructions? How do you program a robot? Debugging simple programs <p>NC objectives covered</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 (including floor robots) 	<ul style="list-style-type: none"> Scratch Jr? Can you code your own game? <p>NC objectives covered</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
<p>LOWER KS2</p>	<p>My online life Main Computing Concept: Digital Literacy</p>	<p>Programming with Robots Main Computing Concept: Computer Science</p>	<p>Hour of Code Main Computing Concept: Computer Science</p>



	<p><u>Key Vocabulary</u> Communicate, search, online bullying, copyright, trust, reputation, password, private</p> <p><u>End Point of Learning</u> By the end of this unit children will be able to:</p> <ul style="list-style-type: none"> understand what key words are when using search engines and understand that search engines try to put the most useful websites at the top. (Y4 – explain why some websites might appear first in their searches.) can filter results by adding more detail or using advanced tools. (Y4 - can explain the process of using advanced tools and why it can be useful.) explain what copyright is and why we have copyright. Knows that to use copyright material without for it or getting consent is against the law. (Copyright) (Y4 - knows that copying the work of others and presenting it as one’s own is called plagiarism.) Discuss what personal information is and what they shouldn’t be sharing (Online Reputation) (Y4 - discuss the consequences of sharing too much online. The child can discuss the concept of a digital footprint and how this can have a negative effect in the future.) aware of and knows how use the safety features of websites as well as reporting concerns to an adult they trust. (Online Relationships) (Y4 - understands that some online accounts are not real people and that these are called bots.) explain what online bullying/ cyberbullying is and some of the forms it can take. knows how to report any concerns and who they consider a trusted adult. (Online Bullying) 	<p><u>Key Vocabulary</u> Simulation Fake News Sprite Template Input Output Decomposition Repeat/Loop Algorithm Program Flow Chart Sequence X/Y Axis Debug Command Condition Code Block Variables</p> <p><u>End Point of Learning</u> By the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> plan, create and debug programs. use decomposition to help me solve computing problems. (Y4 - demonstrate a clear process when solving problems.) use sequence, selection, repetition and variables in programs. (Y4 - produce a design (algorithm) for a program that shows that they are thinking of the structure of a program in logical, achievable steps and referencing coding structures. For example, ‘if’ statements, repeat loops and variables.) work with various forms of input and output. use logical reasoning to predict and correct errors in algorithms and programs. explain how the internet works. explain how a search engine works. (Y4 - can recognise the main components (hardware) which allow computers to join and form a network.) <p>Pupils will programme a robot around a maze and produce a ppt to show learning.</p> <p><u>Sequence of Learning</u></p> <ul style="list-style-type: none"> what are robots? 	<p><u>Key Vocabulary</u> Website Conditional Run Program Loop Command Block Sequence Sprite</p> <p><u>End point of Learning</u> by the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> create digital content using a range of mixed tools/media to improve its design. E.g. text, graphics and sound to share ideas and learning. Use appropriate keyboard commands to amend text on a device, including making use of a spellchecker. (Y4 - produce documents and presentations with increasing competence. Confidently use different layouts and effects (such as text box, columns, tables, justification, borders, background colour) to refine and improve their work. Use features such as; add slide transitions and animation effects. Use a keyboard confidently and make use of a spellchecker to write and review their work.) demonstrate how they solved a problem by breaking it into smaller parts. Plan out a program and break it into smaller steps when tackling the structure, incorporating sequencing, commands and procedures. use conditional statements such as “If”, “Then” & “When” to control devices / achieve specific outcomes. <p><u>Sequence of Learning:</u></p> <ul style="list-style-type: none"> What is coding? Why is coding important? What is visual coding What is an algorithm?
--	---	--	---



	<p>Evidence from these sessions will be recorded by the children creating their ppt.</p> <p><u>Sequence of Learning</u></p> <ul style="list-style-type: none"> • What is your online identity • How can you build positive online relationships and be a good digital citizen? • How can I create a positive online reputation? • What is online bullying and what can I do about it? • Do you really know how to use the internet? • Can technology impact on your health? • How secure are you with your online information and accounts? • Who owns the information on the internet? <p>NC objectives covered</p> <ul style="list-style-type: none"> ❖ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<ul style="list-style-type: none"> • How do you program a robot? • Would you trust a driveless car? • Can you create a driveless car simulator in scratch? • Can you create a program for driverless car simulator in Scratch? • Can you debug a program? <p>NC objectives covered</p> <ol style="list-style-type: none"> 1. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 	<ul style="list-style-type: none"> • What is a program? • What is a conditional statement? <p>NC objectives covered</p> <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
<p>UPPER KS2</p>	<p style="text-align: center;">My online life</p> <p>Main Computing Concept: Digital Literacy</p> <p><u>Key Vocabulary</u> Online, communicate, online bullying, copyright, trust, reputation, online identity, trolling,</p> <p><u>End Point of Learning</u> By the end of this pupils will be able to:</p> <ul style="list-style-type: none"> ❖ use advance search tools to refine their web searches. 	<p style="text-align: center;">Crossy Roads</p> <p>Main Computing Concept: Computer Science</p> <p><u>Key Vocabulary</u> Decomposition, command, decision, algorithm, sequence, instructions, debug, program, variable</p> <p><u>End Point of Learning</u> By the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> • explain decomposition and think through the steps or rules of a problem and design a basic algorithm which could be turned into a program. 	<p style="text-align: center;">Coding Playground</p> <p>Main Computing Concept: Computer Science</p> <p><u>Key Vocabulary</u> App Developers Visual coding Android Mobile Program Cloud Prototypes Logo Design Content Bugs Feedback Functions Commands For loop</p> <p><u>End point of Learning:</u> By the end of this unit pupils will be able to:</p> <ul style="list-style-type: none"> • understand they need to have a balanced approach to their use of technology. Can

<p>❖ know the information found on some sites will be biased. E.g. newspapers with political stance. Aware they should always question the reliability and plausibility of information they find. Select trusted and suitable websites to find out information.</p> <p>(Y6 - discuss in detail the steps required to fact check information and help ensure it is accurate and reliable such as using multiple sources and identifying reliable sources such as the BBC, National Museums, etc.)</p> <p>❖ discuss different online communication tools/apps and how they could be used for different purposes.</p> <p>❖ explain why they need to protect themselves and their friends and the best ways to do this, including reporting concerns to an adult.</p> <p>(Y6 - discuss how to report or block users within the games, apps and websites they use and make reports to external agencies including CEOP and ChildLine in conjunction with a trusted adult.)</p> <ul style="list-style-type: none"> • Explain the difference between mis-information and dis-information. • understand the 'Digital 5 a Day' plan and they need to have a balanced approach to their use of technology. The child can discuss the positive and negative effects technology may have on their health. <p>(Y6 - discuss how they manage their own digital usage. E.g. how they get enough exercise, limit their screen time and get enough sleep etc.)</p> <ul style="list-style-type: none"> • outline what makes a secure username and password. The child can explain why it is important not to enter personal information on websites or in apps that appear suspicious. <p>(Y6 - knows how to create and regularly update strong passwords and not to use the same password for all</p>	<p>(Y6 - can deconstruct the problem into smaller steps, recognising similarities to solutions used before.)</p> <ul style="list-style-type: none"> • Use conditional statements in hopscotch. <p>(Y6 - create an algorithm and turn their designs into a program. Incorporates variables, procedures and different forms of input and output.)</p> <ul style="list-style-type: none"> • Know key coding vocabulary – event, command, sequence, loop, random & range. <p>Pupils will create complex game using hopscotch and an e-book alongside to evidence their learning.</p> <p><u>Sequence of Learning</u></p> <ul style="list-style-type: none"> • Can you create a Coding Journal? • Can you explain what coding is? • Can you decompose a game? • Can you use visual coding to create a working game? • Can you share a game? <p>NC objectives covered</p> <ul style="list-style-type: none"> ❖ 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 	<p>discuss the positive and negative effects technology may have on their health.</p> <ul style="list-style-type: none"> • Be aware that they need to test the programs they create. • Explain how testing and debugging can lead to improved programs <p>(Y6 - repeatedly experiment, make, test and debug their programs.)</p> <p>Describe how they overcame problems to arrive at a solution.)</p> <ul style="list-style-type: none"> • execute common commands using a text-based language e.g. Python/Javascript/SwiftPlayground. (with support) <p>(Y6 - persevere when solving difficult problems even if the solution is not obvious. Execute and adapt common commands using a text-based language e.g. Python/ Javascript/SwiftPlayground.)</p> <ul style="list-style-type: none"> • use logical reasoning and attempt to explain each of the steps in an algorithm or program. <p>(Y6 - recognise that there is often more than one way to solve a problem in an algorithm or program.)</p> <p><u>Sequence of learning</u></p> <p>What is an app developer? What is a design brief? What is a prototype? What is Text-Based Programming? What is Swift Playground? What are commands? What are functions? What is a For Loop?</p> <p>NC objectives covered</p> <ul style="list-style-type: none"> ❖ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;
---	---	--



	<p>accounts and devices. Recognise the need to ensure all technology they use is secure.)</p> <p>Evidence from these sessions will be recorded by the children creating their own digital e-book using book creator.</p> <p><u>Sequence of Learning</u></p> <ul style="list-style-type: none"> • What does your online life say about you? • What is an online community? • What judgements do you make about other people's online life? • Protecting yourself from online bullies • Interpreting online information How reliable is the information you read online? • The impact of technology on sleep • Being secure with online information and accounts <p>NC objectives covered</p> <ul style="list-style-type: none"> ❖ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 		<p>solve problems by decomposing them into smaller parts</p> <ul style="list-style-type: none"> ❖ 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
--	--	--	---