Computing Skills Progression Map

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
What is a Computer?	• use different digital devices • recognise that you can access content on a digital device • use a mouse, touchscreen or appropriate access device to target and select options on screen • recognise a selection of digital devices • recognise the basic parts of a computer, e.g. mouse, screen, keyboard • select a digital device to fulfil a specific task, e.g. to take a photo	• identify technology • identify a computer and its main parts • use a mouse in different ways • use a keyboard type • use the keyboard edit text • create rules for using technology responsibly	• recognise the uses and features of information technology • identify information technology in the home • identify information technology beyond school • explain how information technology benefits us • show how use information technology safely • recognise that choices are made when using information technology	• explain how digital devices function • identify input and output devices • recognise how digital devices can change the way we work • explain how a computer network can be used share information • explore how digital devices can be connected • recognise the physical components of a network	• describe how networks physically connect other networks • recognise how networked devices make up the internet • outline how websites can be shared via the World Wide Web • describe how content can be added and accessed on the World Wide Web • recognise how the content of the WWW is created by people • evaluate the consequences of unreliable content	• explain that computers can be connected together form systems • recognise the role of computer systems in our lives • recognise how information is transferred over the internet • explain how sharing information online lets people in different places work together • contribute a shared project online • evaluate different ways of working together online	• identify how use a search engine • describe how search engines select results • explain how search results are ranked • recognise why the order of results is important, and whom • recognise how we communicate using technology • evaluate different methods of online communication
		Summer 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Computing Skills Progression Map

Willow Primary School

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Presenting Information & Multimedia	• use technology to explore and access digital content • operate a digital device with support to fulfil a task • create simple digital content, e.g. digital art • choose media to convey information, e.g. image for a poster	• describe what different freehand tools do • use the shape tool and the line tools • make careful choices when painting a digital picture • explain why I chose the tools I used • use a computer on my own paint a picture • compare painting a picture on a computer and on paper	• know what devices can be used to take photographs • use a digital device to take a photograph • describe what makes a good photograph • decide how photographs can be improved • use tools to change an image • recognise that images can be changed	• recognise how text and images convey information • recognise that text and layout can be edited • choose appropriate page settings • add content to a desktop publishing publication • consider how different layouts can suit different purposes • consider the benefits of desktop publishing	• identify that sound can be digitally recorded • use a digital device to record sound • explain that a digital recording is stored as a file • explain that audio can be changed through editing • show that different types of audio can be combined and played together • evaluate editing choices made	• recognise video as moving pictures, which can include audio • identify digital devices that can record video • capture video using a digital device • recognise the features of an effective video • identify that video can be improved through reshooting and editing • consider the impact of the choices made when making and sharing a video	• review an existing website and consider its structure • plan the features of a web page • consider the ownership and use of images (copyright) • recognise the need to preview pages • outline the need for a navigation path • recognise the implications of linking to content owned by other people
		• use a computer write • add and remove text on a computer • identify that the look of text can be changed on a computer • make careful choices when changing text • explain why I used the tools that I chose • compare writing on a computer with writing on paper	• say how music can make us feel • identify that there are patterns in music • describe how music can be used in different ways • show how music is made from a series of notes • create music for a purpose • review and refine our computer work	• explain that animation is a sequence of drawings or photographs • relate animated movement with a sequence of images • plan an animation • identify the need to work consistently and carefully • review and improve an animation • evaluate the impact of adding other media to an animation	• explain that digital images can be changed • change the composition of an image • describe how images can be changed for different uses • make good choices when selecting different tools • recognise that not all images are real • evaluate how changes can improve an image	• identify that drawing tools can be used to produce different outcomes • create a vector drawing by combining shapes • use tools to achieve a desired effect • recognise that vector drawings consist of layers • group objects to make them easier to work with • evaluate my vector drawing	• use a computer to create and manipulate three-dimensional (3D) digital objects • compare working digitally with 2D and 3D graphics • construct a digital 3D model of a physical object • identify that physical objects can be broken down into a collection of 3D shapes • design a digital model by combining 3D objects • develop and improve a digital 3D model
		Autumn 1 Summer 2	Spring 1 Summer 1	Autumn 2 Summer 1	Spring 1 Summer 2	Autumn 2 Spring 2	Spring 2 Summer 1

Computing Skills Progression Map

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Data	• Access content in a range of formats, e.g. image, video, audio • Answer basic questions about information displayed in images e.g. more or less	• label objects • identify that objects can be counted • describe objects in different ways • count objects with the same properties • compare groups of objects • answer questions about groups of objects	• recognise that we can count and compare objects using tally charts • recognise that objects can be represented as pictures • create a pictogram • select objects by attribute and make comparisons • recognise that people can be described by attributes • explain that we can present information using a computer	• create questions with yes/no answers • identify the object attributes needed to collect relevant data • create a branching database • identify objects using a branching database • explain why it is helpful for a database to be well structured • compare the information shown in a pictogram with a branching database	• explain that data gathered over time can be used to answer questions • use a digital device to collect data automatically • explain that a data logger collects 'data points' from sensors over time • use data collected over a long duration to find information • identify the data needed to answer questions • use collected data to answer questions	• use a form to record information • compare paper and computer-based databases • outline how grouping and then sorting data allows us to answer questions • explain that tools can be used to select specific data • explain that computer programs can be used to compare data visually • apply my knowledge of a database to ask and answer real-world questions	• identify questions which can be answered using data • explain that objects can be described using data • explain that formula can be used to produce calculated data • apply formulas to data, including duplicating • create a spreadsheet to plan an event • choose suitable ways to present data
		Spring 1	Spring 2	Spring 2	Autumn 2	Summer 1	Spring 1

Computing Skills Progression Map

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Programming & Algorithms	• explore technology • repeat an action with technology to trigger a specific outcome • recognise the success or failure of an action • follow simple instructions to control a digital device • •	• explain what a given command will do • act out a given word • combine forwards and backwards commands to make a sequence • combine four direction commands to make sequences • plan a simple program • find more than one solution to a problem	• describe a series of instructions as a sequence • plain what happens when we change the order of instructions • use logical reasoning to predict the outcome of a program (series of commands) • explain that programming projects can have code and artwork • design an algorithm • create and debug a program that I have written	• explore a new programming environment • identify that each sprite is controlled by the commands I choose • explain that a program has a start • recognise that a sequence of commands can have an order • change the appearance of my project • create a project from a task description	• identify that accuracy in programming is important • create a program in a text-based language • explain what 'repeat' means • modify a count-controlled loop to produce a given outcome • decompose a program into parts • create a program that uses count-controlled loops to produce a given outcome	• control a simple circuit connected to a computer • write a program that includes count-controlled loops • explain that a loop can stop when a condition is met, eg number of times • conclude that a loop can be used to repeatedly check whether a condition has been met • design a physical project that includes selection • create a controllable system that includes selection	• define a 'variable' as something that is changeable • explain why a variable is used in a program • choose how to improve a game by using variables • design a project that builds on a given example • use my design to create a project • evaluate my project
	• recognise that we control computers • input a short sequence of instructions to control a device	• choose a command for a given purpose • show that a series of commands can be joined together • identify the effect of changing a value • explain that each sprite has its own instructions • design the parts of a project • use my algorithm to create a program	• explain that a sequence of commands has a start • explain that a sequence of commands has an outcome • create a program using a given design • change a given design • create a program using my own design • decide how my project can be improved	• explain how a sprite moves in an existing project • create a program to move a sprite in four directions • adapt a program to a new context • develop my program by adding features • identify and fix bugs in a program • design and create a maze-based challenge	• develop the use of count-controlled loops in a different programming environment • explain that in programming there are infinite loops and count controlled loops • develop a design which includes two or more loops which run at the same time • modify an infinite loop in a given program • design a project that includes repetition • create a project that includes repetition	• explain how selection is used in computer programs • relate that a conditional statement connects a condition to an outcome • explain how selection directs the flow of a program • design a program which uses selection • create a program which uses selection • evaluate my program	• create a program to run on a controllable device • explain that selection can control the flow of a program • update a variable with a user input • use an conditional statement to compare a variable to a value • design a project that uses inputs and outputs on a controllable device • develop a program to use inputs and outputs on a controllable device
		Autunn 2 Spring 2	Autunn 2 Summer 2	Spring 1 Summer 2	Spring 2 Summer 1	Spring 1 Summer 2	Autunn 2 Summer 2

Computing Skills Progression Map

Digital Literacy – including online safety. This is not taught as a discrete subject through other computing units (specifically What is a Computer?) and through the PSHCE Curriculum

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Self-Image and Identity	• recognise, online or offline, that anyone can say 'no' - 'please stop' - 'I'll tell' - 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset	• recognise that there may be people online who could make someone feel sad, embarrassed or upset • give examples of when and how to speak to an adult I can trust and how they can help	• 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 and how they might get help	• 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	• 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	• explain how identity online can be copied, modified or altered • demonstrate how to make responsible choices about having an online identity, depending on context	• 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 • can 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

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online Reputation	• identify ways that I can put information on the internet	• recognise that information can stay online and could be copied • describe what information I should not put online without asking a trusted adult first	• 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	• 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 and explain the need to be careful before sharing anything personal • explain who someone can ask if they are unsure about putting something online	• 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	• 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	• 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

Computing Skills Progression Map

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online Bullying	• describe ways that some people can be unkind online • offer examples of how this can make others feel	• describe how to behave online in ways that do not upset others and can give examples	• 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	• 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	• recognise when someone is upset, hurt or angry online • describe ways people can be bullied through a range of media • 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)	• 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 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	• 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

Computing Skills Progression Map

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Computing Skills Progression Map

Willow Primary School

Managing Online Information	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• talk about how to use the internet as a way of finding information online • identify devices I could use to access information on the internet	• know how to find information using digital technologies, e.g. search engines, voice activated searching	• use simple keywords in search engines • demonstrate how to navigate a simple webpage to get to information I need • 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	• 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 give examples of how and where they might be shared online • explain that not all opinions shared may be accepted as true or fair by others • 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	• analyse information to make a judgement about probable accuracy • 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 • make a judgement about probable accuracy • describe some of the methods used to encourage people to buy things online • 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	• explain the benefits and limitations of using different types of search technologies • explain how some technology can limit the information presented • 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 • 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 • describe ways of identifying when online content has been commercially sponsored or boosted • 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' • explain why someone would need to think carefully before sharing	• 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 • 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 • identify, flag and report inappropriate content

Computing Skills Progression Map

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Health, Well-being and Lifestyle	• identify and give examples of rules that help keep us safe and healthy in and beyond the home when using technology •	• explain rules to keep myself safe when using technology both in and beyond the home	• explain simple guidance for using technology in different environments and settings • know how those rules / guides can help anyone accessing online technologies	• explain why spending too much time using technology can sometimes have a negative impact on anyone • give some examples of both positive and negative activities where it is easy to spend a lot of time engaged • 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	• 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	• 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 • ecognise 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 and explain the importance of seeking permission from a trusted adult before purchasing	• describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose • recognise and 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 • assess and action different strategies to limit the impact of technology on health

Computing Skills Progression Map

Privacy and Security	• identify some simple examples of my personal information (e.g. name, address, birthday, age, location) • describe who would be trustworthy to share this information with and why they are trusted	• explain that passwords are used to protect information, accounts and devices • recognise more detailed examples of information that is personal to someone • explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others	• 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 • explain how some people may have devices in their homes connected to the internet and give examples	• 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	• describe strategies for keeping personal information private, depending on context • explain that internet use is never fully private and is monitored • describe how some online services may seek consent to store • know how to respond appropriately and who to ask if un sure	• explain what a strong password is and demonstrate how to create one • can explain how many free apps or services may read and share private information • explain what app permissions are and can give some examples	• describe effective ways people can manage passwords • 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 • 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; I can describe strategies to help me identify such content • know that online services have terms and conditions that govern their use

	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Copyright and Ownership	• know that work I create belongs to me • name my work so that others know it belongs to me	• explain why work I create using technology belongs to me • say why it belongs to me • save my work under a suitable title or name so that others know it belongs to me • understand that work created by others does not belong to me even if I save a copy	• recognise that content on the internet may belong to other people • describe why other people's work belongs to them	• explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause	• consider who owns internet content whether they have the right to reuse it • give some simple examples of content which I must not use without permission from the owner	• 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	• 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