

Computing Skills Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Computer Science		Information Technology		Digital Literacy	
Term 1 – Computing Systems and Networks	Autumn term 1: (Computing systems and networks-Technology around us) <ul style="list-style-type: none"> To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly 	Autumn term 1 (computing systems and networks-IT around us) <ul style="list-style-type: none"> To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school To explain how information technology benefits us To show how to use information technology safely To recognise that choices are made when using information technology 	Autumn term 1 (computing systems and networks-connecting computers) <ul style="list-style-type: none"> To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network 	Autumn 1 (computing systems and networks-The Internet) <ul style="list-style-type: none"> To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web To describe how content can be added and accessed on the World Wide Web To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content 	Autumn 1 (computing systems and networks—systems and searching) <ul style="list-style-type: none"> To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online 	Autumn 1 (computing systems and networks-communication and collaboration) <ul style="list-style-type: none"> To explain the importance of internet addresses To explain how data is transferred across the internet To explain how sharing information online can help people work together To evaluate different ways of working together online To recognise how we communicate using technology To evaluate different methods of online communication
Term 2 – Creating Media	Autumn term 2 (creating media-digital painting) <ul style="list-style-type: none"> To describe what different freehand tools do To use the shape tool and line tool To make careful choices when painting a digital picture To explain why I used the tools I did To use a computer on my own to paint a picture 	Autumn Term 2: (creating media-digital photography) <ul style="list-style-type: none"> To know what devices can be used to take photographs To use a digital device to take a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that images can be changed 	Autumn 2 (creating media-stop-frame animation) <ul style="list-style-type: none"> To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation 	Autumn2 (creating media-Audio production) <ul style="list-style-type: none"> To identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made 	Autumn 2 (creating media-video production) <ul style="list-style-type: none"> To recognise video as moving pictures, which can include audio To identify digital devices that can record video To capture video using a digital device To recognise the features of an effective video To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video 	Autumn 2 (creating media-webpage creation) <ul style="list-style-type: none"> To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people
Term 3 – Programming A	Spring term 1: (Programming A-moving a robot) <ul style="list-style-type: none"> To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem 	Spring term 1 (programming A-robot algorithms) <ul style="list-style-type: none"> To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm 	Spring 1 (programming A-sequencing sounds) <ul style="list-style-type: none"> To explore a new programming environment I can identify that each sprite is controlled by the commands I choose To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project 	Spring 1 (programming A-repetition in shapes) <ul style="list-style-type: none"> To identify that accuracy in programming is important To create a program in a text-based language To explain what ‘repeat’ means To modify a count-controlled loop to produce a given outcome To decompose a program into parts To create a program that uses count-controlled loops to produce a given outcome 	Spring 1 (programming A-selection in physical computing) <ul style="list-style-type: none"> To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met, e.g. number of times To conclude that a loop can be used to repeatedly check whether a condition has been met To design a physical project which includes selection To create a controllable system which includes selection 	Spring 1 (programming A-variables in games) <ul style="list-style-type: none"> To define a ‘variable’ as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project

		<ul style="list-style-type: none"> To create and debug a program that I have written 	<ul style="list-style-type: none"> To create a project from a task description 			
Term 4 – Data and Information	Spring term 2 (data and information-grouping data) <ul style="list-style-type: none"> To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects 	Spring term 2 (data and information-Pictograms) <ul style="list-style-type: none"> To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer 	Spring 2 (data and information-branching databases) <ul style="list-style-type: none"> To create questions with yes/no answers To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To identify the object attributes needed to collect relevant data To compare the information shown in a pictogram with a branching database 	Spring 2 (data and information-data logging) <ul style="list-style-type: none"> To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects ‘data points’ from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions 	Spring 2 (data and information-flat-file databases) <ul style="list-style-type: none"> To use a form to record information To compare paper and computer-based databases To apply my knowledge of a database to ask and answer real-world questions To explain that tools can be used to select data to answer questions To apply my knowledge of a database to ask and answer real-world questions To apply my knowledge of a database to ask and answer real-world questions 	Spring 2 (data and information-spreadsheets) <ul style="list-style-type: none"> To create a data set in a spreadsheet To build a data set in a spreadsheet To explain that formulae should be used to produce calculated data To apply formulae to data To create a spreadsheet to plan an event To choose suitable ways to present data
Term 5 – Creating Media	Summer term 1: (creating media-digital writing) <ul style="list-style-type: none"> To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare writing on a computer with writing on paper 	Summer 1 (creating media-digital music) <ul style="list-style-type: none"> To say how music can make us feel (not a computing related progression step) To identify that there are patterns in music To describe how music can be used in different ways To show how music is made from a series of notes To create music for a purpose To review and refine our computer work 	Summer 1 (creating media-desktop publishing) <ul style="list-style-type: none"> To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing 	Summer 1 (creating media-photo editing) <ul style="list-style-type: none"> To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image 	Summer 1 (creating media-introduction to vector graphics) <ul style="list-style-type: none"> To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To evaluate my vector drawing 	Summer 1 (creating media 3D modelling) <ul style="list-style-type: none"> To recognise that you can work in 3D on a computer To identify that digital 3d objects can be modified To recognise that objects can be combined in a 3d model To create a 3d model for a given purpose To plan my own 3d model
Term 6 – Programming B	Summer term 2 (programming B-animations) <ul style="list-style-type: none"> To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program 	Summer 2 (programming B-programming quizzes) <ul style="list-style-type: none"> To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design 	Summer 2 (programming B-events and actions in programs) <ul style="list-style-type: none"> To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze based (given) challenge 	Summer 2 (programming B-repetition in games) <ul style="list-style-type: none"> To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design which includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition 	Summer 2 (Programming B-selection in quizzes) <ul style="list-style-type: none"> To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program 	Summer 2 (programming B –sensing movement) <ul style="list-style-type: none"> To create a program to run on a controllable device To explain that selection can control the flow of a program To update the variable with a user input To use a conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device

Online Safety Skills Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Term 1 Self-Image and Identity	<ul style="list-style-type: none"> - I can 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, I can give examples of when and how to speak to an adult I can trust. 	<p>I can explain how other people's identity online can be different to their identity in real life.</p> <p>I can describe ways in which people might make themselves look different online.</p> <ul style="list-style-type: none"> - I can give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help. 	<p>I can explain how my online identity can be different to the identity I present in 'real life'.</p> <ul style="list-style-type: none"> - Knowing this, I can describe the right decisions about how I interact with others and how others perceive me 	<p>I can explain what is meant by the term</p> <ul style="list-style-type: none"> - 'identity' <p>I can explain how I can represent myself in different ways online.</p> <p>I can explain ways in which, and why, I might change my identity depending on what I am doing online (e.g.</p> <ul style="list-style-type: none"> - gaming; using an avatar; social media). 	<p>I can explain how identity online can be copied, modified or altered.</p> <ul style="list-style-type: none"> - I can demonstrate responsible choices about my online identity, depending on context. 	<ul style="list-style-type: none"> - I can describe ways in which media can shape ideas about gender. - I can identify messages about gender roles and make judgements based on them. - I can challenge and explain why it is important to reject inappropriate messages about gender online. - I can describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. - I know and can give examples of how I might get help, both on and offline. - I can explain why I should keep asking until I get the help I need.
Term 1 Privacy and Security	<ul style="list-style-type: none"> - I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school). - I can explain why I should always ask a trusted adult before I share any information about myself online. - I can explain how passwords can be used to protect information and devices. 	<p>I can describe how online information about me could be seen by others.</p> <p>I can describe and explain some rules for keeping my information private.</p> <p>I can explain what passwords are and can use passwords for my accounts and devices.</p> <ul style="list-style-type: none"> - I can explain how many devices in my home could be connected to the internet and can list some of those devices. 	<p>I can explain what a strong password is</p> <p>I can describe strategies for keeping my personal information private, depending on context.</p> <p>I can explain that others online can pretend to be me or other people, including my friends.</p> <p>I can suggest reasons why they might do this. I can explain how internet use can be monitored.</p>	<p>I can give reasons why I should only share information with people I choose to and can trust.</p> <p>I can explain that if I am not sure or I feel pressured, I should ask a trusted adult.</p> <p>I understand and can give reasons why passwords are important.</p> <p>I can describe simple strategies for creating and keeping passwords private.</p>	<ul style="list-style-type: none"> - I can create and use strong and secure passwords. - I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. - I can explain how and why some apps may request or take payment for additional content (e.g. in-app purchases) and explain why I 	<ul style="list-style-type: none"> - I use different passwords for a range of online services. - I can describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories). - I know what to do if my password is lost or stolen. - I can explain what app permissions are and can give some examples from the technology or services I use. - I can describe simple ways to increase privacy on apps and

				- I can describe how connected devices can collect and share my information with others.	should seek permission from a trusted adult before purchasing.	services that provide privacy settings. - I can 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 (e.g. scams, phishing)
Term 2 Online Bullying	- I can describe how to behave online in ways that do not upset others and can give examples	I can give examples of bullying behaviour and how it could look online. I understand how bullying can make someone feel. I can talk about how someone can/would get help about being bullied online or offline.	I can identify some online technologies where bullying might take place. I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). I can explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation).	I can explain what bullying is and can describe how people may bully others. - I can describe rules about how to behave online and how I follow them.	- I can recognise when someone is upset, hurt or angry online - I can describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone. - I can explain how to block abusive users. - I can explain how I would report online bullying on the apps and platforms that I use. - I can describe the helpline services who can support me and what I would say and do if I needed their help (e.g. Childline).	- I can describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me. - I can identify a range of ways to report concerns both in school and at home about online bullying.
Term 3 Online Reputation	- I can recognise that information can stay online and could be copied. - I can describe what information I should not put online without asking a trusted adult first	I can explain how information put online about me can last for a long time. I know who to talk to if I think someone has made a mistake about putting something online.	I can describe how others can find out information about me by looking online. - I can explain ways that some of the information about me online could have been created, copied or shared by others.	I can search for information about myself online. I can recognise that I need to be careful before I share anything about myself or others online. I know who I should ask if I am not sure if I should put something online.	- I can search for information about an individual online and create a summary report of the information I find. - I can describe ways that information about people online can be used by others to make judgments about an individual.	- I can explain how I am developing an online reputation which will allow other people to form an opinion of me. - I can describe some simple ways that help build a positive online reputation.
Term 4 Health, well-being and lifestyle	- I can explain rules to keep us safe when we are using technology - both in and beyond the home	I can explain simple guidance for using technology in different environments and settings.	I can explain how using technology can distract me from other things I might do or should be doing	- I can explain why spending too much time using technology can sometimes have a negative impact on	- I can describe ways technology can affect healthy sleep and can describe some of the issues.	- I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental

	<ul style="list-style-type: none"> - I can give examples of some of these rules. 	<ul style="list-style-type: none"> - I can say how those rules/guides can help me. 	<p>I can identify times or situations when I might need to limit the amount of time I use technology.</p> <p>I can suggest strategies to help me limit this time.</p>	<p>me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).</p>	<ul style="list-style-type: none"> - I can describe some strategies, tips or advice to promote healthy sleep with regards to technology 	<p>warnings) and describe their purpose.</p> <ul style="list-style-type: none"> - I can assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise). - I can explain the importance of selfregulating my use of technology; I can demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents
<p>Term 5 – Online Relationships</p>	<ul style="list-style-type: none"> - I can use the internet with adult support to communicate with people I know. - I can explain why it is important to be considerate and kind to people online 	<p>I can use the internet to communicate with people I don't know well (e.g. email a penpal/author/local school).</p> <ul style="list-style-type: none"> - I can give examples of how I might use technology to communicate with others I don't know well. 	<p>I can describe strategies for safe and fun experiences in a range of online social environments.</p> <ul style="list-style-type: none"> - I can give examples of how to be respectful to others online 	<p>I can describe ways people who have similar likes and interests can get together online.</p> <p>I can give examples of technology-specific forms of communication (e.g. emojis, acronyms, text speak).</p> <p>I can explain some risks of communicating online with others I don't know well.</p> <p>I can explain how my and other people's feelings can be hurt by what is said or written online.</p> <p>I can explain why I should be careful who I trust online and what information I can trust them with.</p> <p>I can explain why I can take back my trust in someone or something if I feel nervous, uncomfortable or worried.</p> <p>I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life.</p>	<ul style="list-style-type: none"> - I can 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. - I can make positive contributions and be part of online communities. - I can describe some of the communities in which I am involved and describe how I collaborate with others positively. 	<ul style="list-style-type: none"> - I can show I understand my responsibilities for the well-being of others in my online social group. - I can explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). - I can demonstrate how I would support others (including those who are having difficulties) online. - I can demonstrate ways of reporting problems online for both myself and my friends.

				I can explain what is meant by 'trusting someone online'. I can explain why this is different from 'liking someone online'		
Term 6 Managing Online Information	<ul style="list-style-type: none"> - I can use the internet to find things out. - I can use simple keywords in search engines. - I can describe and demonstrate how to get help from a trusted adult or helpline if I find content that makes me feel sad, uncomfortable worried or frightened. 	<p>I can use keywords in search engines.</p> <p>I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).</p> <p>I can explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now,</p> <ul style="list-style-type: none"> - Siri). <p>I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.</p> <ul style="list-style-type: none"> - I can explain why some information I find online may not be true. 	<p>I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts'.</p> <p>I understand what criteria have to be met before something is a</p> <ul style="list-style-type: none"> - 'fact' <p>I can describe how I can search for information within a wide group of technologies (e.g.</p> <ul style="list-style-type: none"> - social media, image sites, video sites). <p>I can describe some of the methods used to encourage people to buy things online (e.g.</p> <ul style="list-style-type: none"> - advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online. <p>I can explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people.</p> <p>I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true.</p> 	<p>I can use key phrases in search engines.</p> <p>I can explain what autocomplete is and how to choose the best suggestion</p> <p>I can explain how the internet can be used to sell and buy things.</p> <p>I can explain the difference between</p> <ul style="list-style-type: none"> - a 'belief', an - 'opinion' and a 'fact' 	<ul style="list-style-type: none"> - I can use different search technologies. - I can evaluate digital content and can explain how I make choices from search results. - I can explain key concepts including: data, information, fact, opinion belief, true, false, valid, reliable and evidence. - I understand the difference between online misinformation (inaccurate information distributed by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead). - I can explain what is meant by 'being sceptical'. - I can give examples of when and why it is important to be 'sceptical'. - I can explain what is meant by a 'hoax'. - I can explain why I need to think carefully before I forward anything online. - I can explain why some information I find online may not be honest, accurate or legal. - I can explain why information that is on a large number of sites may still be inaccurate or untrue. 	<ul style="list-style-type: none"> - I can use search technologies effectively. - I can explain how search engines work and how results are selected and ranked. - I can demonstrate the strategies I would apply to be discerning in evaluating digital content. - I can describe how some online information can be opinion and can offer examples. - I can explain how and why some people may present 'opinions' as 'facts'. - I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting'). - I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. - I can identify, flag and report inappropriate content.

Term 6 Copyright and ownership	<ul style="list-style-type: none"> - I can explain why work I create using technology belongs to me. - I can say why it belongs to me (e.g. 'it is my idea' or 'I designed it'). - I can save my work so that others know it belongs to me (e.g. filename, name on content). 	<p>I can describe why other people's work belongs to them.</p> <ul style="list-style-type: none"> - I can recognise that content on the internet may belong to other people. 	<p>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.</p> <ul style="list-style-type: none"> - I can give some simple examples. 	<p>I can explain why copying someone else's work from the internet without permission can cause problems.</p> <ul style="list-style-type: none"> - I can give examples of what those problems might be. 	<ul style="list-style-type: none"> - I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose). 	<ul style="list-style-type: none"> - I can assess and justify when it is acceptable to use the work of others. - I can give examples of content that is permitted to be reused.
						<ul style="list-style-type: none"> - I can demonstrate the use of search tools to find and access online content which can be reused by others. - I can demonstrate how to make references to and acknowledge sources I have used from the internet.

