Computing Curriculum Overview

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Computing systems and networks	**Computing systems and networks**	**Computing systems and networks**	**Computing systems and networks**	**Computing systems and networks**	**Computing systems and networks**
	Unit	**Technology Around Us** *Recognising technology in school and using it responsibly.*	**Information technology around us** *Identifying IT and how its responsible use improves our world in school and beyond.*	**Connecting Computers** *Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.*	**The internet** *Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.*	**Systems and searching** *Recognising IT systems around us and how they allow us to search the internet.*	**Communication and collaboration** *Identifying and exploring how data is transferred and information is shared online.*
Term 1	Objectives	• 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	• To recognise the uses and features of information technology • To identify the uses of information technology in the school • To identify information technology beyond school • To explain how information technology helps us • To explain how to use information technology safely • To recognise that choices are made when using information technology	• To explain how digital devices function • To identify input and output devices • To recognise how digital devices can change the way that 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	• 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 (WWW) • To describe how content can be added and accessed on the World Wide Web (WWW) • To recognise how the content of the WWW is created by people • To evaluate the consequences of unreliable content	• To explain that computers can be connected together to form systems • To recognise the role of computer systems in our lives • To identify how to use a search engine • To describe how search engines select results • To explain how search results are ranked • To recognise why the order of results is important, and to whom	• To explain the importance of internet addresses • To recognise how data is transferred across the internet • To explain how sharing information online can help people to work together • To evaluate different ways of working together online • To recognise how we communicate using technology • To evaluate different methods of online communication
	National Curriculum Objectives	• Recognise common uses of information technology beyond school • Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • 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	• Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • Recognise common uses of information technology beyond school • 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	• use sequence, selection, and repetition in programs, work with variables and various forms of input and output • 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 • 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	• 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.	• 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	• 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 • 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

E-Safety						
Embedded	**Embedded**	**Embedded**	**Embedded**	**Embedded**	**Embedded**	
Health, well-being and lifestyle	**Health, well-being, and lifestyle**	**Privacy & Security**	**Managing online information**	**Managing online information**	**Managing online information**	
• I can identify rules that help keep us safe and healthy in and beyond the home when using technology	• I can identify rules that help keep us safe and healthy in and beyond the home when using technology	**Password generation & Security**	• 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 am aware that a person's online activity, history or profile (their 'digital personality') will affect the type of information returned to them in a search or on a social media feed, and how this may be intended to influence their beliefs, actions and choices.	• I can describe and assess the benefits and the potential risks of sharing information online.	
• I can give some simple examples	• I can give some simple examples	• I can describe simple strategies for creating and keeping passwords private			• I can assess and justify when it is acceptable to use the work of others	
Copyright and ownership		**When is it ok to share?**	• I can explain what is meant by fake news, e.g., why some people will create stories or alter photographs and put them online to pretend something is true when it isn't.	• I can explain how search engine rankings are returned and can explain how they can be influenced (e.g. commerce, sponsored results)	• I can give examples of content that is permitted to be reused	
• I know that the work I create belongs to me	**Specific**	• I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult.				
• I can name my work so that others know it belongs to me	**Self Image & Identity**		• I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g., by commercial companies or by vloggers, content creators, or influencers).	**Specific**	**Specific**	
	Helping Alex	**Match the post to the profile**		**Managing Information Online**	**Managing Information Online**	
Specific	• I can recognise that there may be people online who could make someone feel sad, embarrassed or upset.	• I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult.	• I can describe how fake news may affect someone's emotions and behaviour and explain why this may be harmful.	**Choose Wisely**	**Gaming the Algorithm**	
Self Image & Identity				• I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I am presented with.	• I can explain how search engines work and how results are selected and ranked.	
Responses and reactions	**Online Relationships**	**Class digital assistant**				
• I can 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..	**Kindness costs nothing**	• I can describe how connected devices can collect and share anyone's information with others.	**Specific**			
	• I can explain why it is important to be considerate and kind to people online and to respect their choices.		**Managing Information Online**		**Online Reputation**	
			Savvy Search		**What I Know, What I share**	
Online Relationships			• I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites).	**Online Reputation**	• I can explain the ways in which anyone can develop a positive online reputation.	
Keeping in touch				**All as it seems?**		
• I can recognise some ways in which the internet can be used to communicate.				• I can search for information about an individual online and summarise the information found.		
• I can give examples of how I (might) use technology to communicate with people I know			**Online Reputation**			
			Open Book?			
			• I can describe how to find out information about others by searching online.			

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Term 2	**Unit**	**Creating media** **Digital painting** *Choosing appropriate tools in a program to create art and making comparisons with working non-digitally.*	**Creating media** **Digital photography** *Capturing and changing digital photographs for different purposes.*	**Creating media** **Stop-frame animation** *Capturing and editing digital still images to produce a stop-frame animation that tells a story.*	**Creating media** **Audio production** *Capturing and editing audio to produce a podcast, ensuring that copyright is considered*	**Creating media** **Video production** *Planning, capturing, and editing video to produce a short film.*	**Creating media** **Webpage creation** *Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.*
	Objectives	• To describe what different freehand tools do • To use the shape tool and the line tools • To make careful choices when painting a digital picture • To explain why I chose the tools I used • To use a computer on my own to paint a picture • To compare painting a picture on a computer and on paper	• To use a digital device to take a photograph • To make choices when taking 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 photos can be changed	• 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	• To identify that sound can be recorded • To explain that audio recordings can be edited • To recognise the different parts of creating a podcast project • To apply audio editing skills independently • To combine audio to enhance my podcast project • To evaluate the effective use of audio	• To explain what makes a video effective • To use a digital device to record video • To capture video using a range of techniques • To create a storyboard • 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	• 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
	National Curriculum Objectives	• Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space (Art and Design) • About the work of a range of artists, craft makers, and designers, describing the differences and similarities between different practices and disciplines and making links to their own work (Art and Design)	• Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • Recognise common uses of information technology beyond school • 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 • To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space (Art and Design)	• 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.	• 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	• 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	• 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.

E-Safety

E-Safety	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
	Embedded **Health, well-being and lifestyle** • I can identify rules that help keep us safe and healthy in and beyond the home when using technology • I can give some simple examples **Copyright and ownership** • I know that the work I create belongs to me • I can name my work so that others know it belongs to me **Specific** **Copyright & Ownership** **Guess the file** • I can name my work so that others know it belongs to me**.** • I can save my work under a suitable title or name so that others know it belongs to me (e.g. filename, name on content). • I understand that work created by others does not belong to me even if I save a copy **Online Bullying** **Happiness Scale** • I can describe how to behave online in ways that do not upset others and can give examples. **Where can Bullying be found?** • I can explain what bullying is, how people may bully others and how bullying can make someone feel	**Embedded** **Managing Online Information** • To identify that some images are not real (fake) **Specific** **Copyright & Ownership** **Scavenger Hunt** • I can describe why other people's work belongs to them • I can recognise that content on the internet may belong to other people. **Online Bullying** **Blame game** • I can explain why anyone who experiences bullying is not to blame **Sunflower Support** • I can talk about how anyone experiencing bullying can get help.	**Embedded** **Managing online information** • I can use key phrases in search engines. • I can use search technologies effectively. **Copyright and ownership** • I can explain why copying someone else's work from the internet without permission can cause problems. • I can give examples of what those problems might be. • 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. • I can give some simple examples. • I can give examples of content that is permitted to be reused. • I can demonstrate the use of search tools to find and access online content which can be reused by others. **Specific** **Self Image & Identity** **Identifying online profiles** • I can explain what is meant by the term 'identity'. • I can explain how people can represent themselves in different ways online • I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why. **Online Bullying** **Spikey the Spider** • I can give examples of how bullying behaviour could appear online and how someone can get support. **BBC Own it 7 tips** • I can describe appropriate ways to behave towards other people online and why this is important.	**Embedded** **Copyright and ownership** • I can explain why copying someone else's work from the internet without permission can cause problems (Y3) • I can give examples of what those problems might be (Y3) • 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 (Y4) • I can give some simple examples (Y4) **Specific** **Online Bullying** **Alan the Alien** • 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). **Bullying Behaviour101** • I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). **How to spot if someone is being bullied online** • I can recognise when someone is upset, hurt or angry online.	**Embedded** **Health, well-being and lifestyle** • Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour **Specific** **Online Bullying** How to block and report • I can explain how to block abusive users. **Supportive Conversation** • I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. • I can describe the helpline services which can help people experiencing bullying, and how to access them • I can identify a range of ways to report concerns and access support both in school and at home about online bullying. **Online Vs Offline** • I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.	**Embedded** **Online relationships** • I can use the internet with adult support to communicate with people I know. (EY-7) **Copyright and ownership** • I can explain why copying someone else's work from the internet without permission can cause problems. • I can give examples of what those problems might be. • 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. • I can give some simple examples. • 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. • 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. **Specific** **Online Bullying** **Bullying or Banter?** • I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. **Top Tips** • I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.

Term 3

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Term 3	Unit	**Programming A**	**Programming A**	**Programming A**	**Programming A**	**Programming A**	**Programming A**
		Moving a robot *Writing short algorithms and programs for floor robots and predicting program outcomes.*	**Robot algorithms** *Creating and debugging programs, and using logical reasoning to make predictions.*	**Sequencing sounds** *Creating sequences in a block-based programming language to make music.*	**Repetition in shapes** *Using a text-based programming language to explore count-controlled loops when drawing shapes.*	**Selection in physical computing** *Exploring conditions and selection using a programmable microcontroller.*	**Variables in games** *Exploring variables when designing and coding a game.*
	Objectives	• 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	• 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 • To explain that programming projects can have code and artwork • To design an algorithm • To create and debug a program that I have written	• To explore a new programming environment • To identify that commands have an outcome • 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 • To create a project from a task description	• 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 task into small steps • To create a program that uses count-controlled loops to produce a given outcome	• 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 • To explain that a loop can be used to repeatedly check whether a condition has been met • To design a physical project that includes selection • To create a program that controls a physical computing project	• 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

	National Curriculum Objectives					
	• 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 • Recognise common uses of information technology beyond school	• 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	• 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	• 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	• 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	• 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
E-Safety	Specific **Privacy & Security** **Personal Information** • I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). • I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. **Who can help me?** • I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). • I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. **Why do I need a password?** • I can explain how passwords are used to protect information, accounts and devices.	Specific **Privacy & Security** **Passwords are keys** • I can explain how passwords can be used to protect information, accounts and devices. **Connected Homes** • I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions). **Making Choices** • I can explain and give examples of what is meant by 'private' and 'keeping things private'. • I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). • I can explain how passwords can be used to protect information, accounts and devices.	Specific **Online Reputation** **Me, myself & I** • I can explain how to search for information about others online **Caring about sharing** • I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal.	Specific **Self Image & Identity** **Online Personas** • I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.	Specific **Copyright & Ownership** **Being fair with content** • I can assess and justify when it is acceptable to use the work of others	Specific **Copyright & Ownership** **Search, reuse, reference** • I can demonstrate the use of search tools to find and access online content which can be reused by others.

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Data and information	**Data and information**	**Data and information**	**Data and information**	**Data and information**	**Data and information**
	Unit	**Grouping data** *Exploring object labels, then using them to sort and group objects by properties.*	**Pictograms** *Collecting data in tally charts and using attributes to organise and present data on a computer.*	**Branching databases** *Building and using branching databases to group objects using yes/no questions.*	**Data logging** *Recognising how and why data is collected over time, before using data loggers to carry out an investigation.*	**Flat-file databases** *Using a database to order data and create charts to answer questions.*	**Introduction to spreadsheets** *Answering questions by using spreadsheets to organise and calculate data.*
Term 4	Objectives	• 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	• 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	• To create questions with yes/no answers • To identify the attributes needed to collect data about an object • To create a branching database • To explain why it is helpful for a database to be well structured • To plan the structure of a branching database • To independently create an identification tool	• 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 recognise how a computer can help us analyse data • To identify the data needed to answer questions • To use data from sensors to answer questions	• To use a form to record information • To compare paper and computer-based databases • To outline how you can answer questions by grouping and then sorting data • To explain that tools can be used to select specific data • To explain that computer programs can be used to compare data visually • To use a real-world database to answer questions	• To create a data set in a spreadsheet • To build a data set in a spreadsheet • To explain that formulas can be used to produce calculated data • To apply formulas to data • To create a spreadsheet to plan an event • To choose suitable ways to present data
	National Curriculum Objectives	• Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • Use technology safely and respectfully •	**Computing** • use technology purposefully to create, organise, store, manipulate and retrieve digital content • 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 **Maths** • interpret and construct simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data •	• 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	• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output • 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 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	• 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

E-Safety						
Embedded **Copyright and ownership** • I know that work I create belongs to me (Y1) • I can name my work so that others know it belongs to me (Y1) **Specific** **Managing online information** **What and When** • I can talk about how to use the internet as a way of finding information online. • I can identify devices I could use to access information on the internet. **Where and How** • I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching.	**Embedded** **Self image and identity** • I can recognise that I can say 'no'/'please stop'/'I'll tell'/'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset • I can explain how this could be either in real life or online • 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 **Specific** **Managing Information Online** **Key word captain** • I can use simple keywords in search engines • 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). **Tech Talk** • I can explain why some information I find online may not be real or true. • I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real' • I can 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).	**Specific** **Managing Information Online** **Autocompleter** • I can explain what autocomplete is and how to choose the best suggestion. **I know, I think, I believe** • I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed).	**Specific** **Privacy & Security** **Online Monitoring** • I can explain that internet use is never fully private and is monitored, e.g. adult supervision **Are you a privacy pro?** • I can describe strategies for keeping personal information private, depending on context. **Digital Consent** • I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. • I know what the digital age of consent is and the impact this has on online services asking for consent.	**Specific** **Privacy & Security** **Permission Mission** • I can explain what app permissions are and can give some examples. **Instead of this do/say this** • I can explain what a strong password is and demonstrate how to create one. **BBC Ownit T&Cs** • I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.	**Embedded** **Managing information online** • I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites) • I can use different search technologies • I can evaluate digital content and can explain how I make choices from search results **Specific** **Privacy & Security** Professional Password Protection • I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). • I can explain what to do if a password is shared, lost or stolen. **Privacy Choices** • I can describe simple ways to increase privacy on apps and services that provide privacy settings. **Scam Spotters** • 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). **Free for a price** • I know that online services have terms and conditions that govern their use. **Update on Updates** • I can describe how and why people should keep their software and apps up to date, e.g. auto updates.

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Unit	**Creating Media**	**Creating Media**	**Creating Media**	**Creating Media**	**Creating Media**	**Creating Media**
		Digital writing *Using a computer to create and format text, before comparing to writing non-digitally.*	**Making music** *Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.*	**Desktop publishing** *Creating documents by modifying text, images, and page layouts for a specified purpose.*	**Photo editing** *Manipulating digital images and reflecting on the impact of changes and whether the required purpose is fulfilled.*	**Vector drawing** *Creating images in a drawing program by using layers and groups of objects.*	**3D modelling** *Planning, developing, and evaluating 3D computer models of physical objects.*
Term 5	Objectives	• 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 typing on a computer to writing on paper	• To say how music can make us feel • To identify that there are patterns in music • To experiment with sound using a computer • To use a computer to create a musical pattern • To create music for a purpose • To review and refine our computer work	• 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 •	• To explain that the composition of digital images can be changed • To explain that colours can be changed in digital images • To explain how cloning can be used in photo editing • To explain that images can be combined • To combine images for a purpose • To evaluate how changes can improve an image	• 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 apply what I have learned about vector drawings	• To recognise that you can work in three dimensions 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 • To create my own digital 3D model
	National Curriculum Objectives	• Use technology purposefully to create, organise, store, manipulate, and retrieve digital content • Use technology safely and respectfully, keeping personal information private	**Computing national curriculum links** • Use technology purposefully to create, organise, store, manipulate, and retrieve digital content **Music national curriculum links** • Play tuned and untuned instruments musically • Listen with concentration and understanding to a range of high-quality live and recorded music • Experiment with, create, select, and combine sounds using the interrelated dimensions of music	**Computing** • 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 **English programmes of study links** • Pupils should be taught to draft and write by: in non-narrative material, using simple organisational devices [for example, headings and subheadings] • Evaluate and edit by assessing the effectiveness of their own and others' writing and suggesting improvements • Proofread for spelling and punctuation errors	• 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	• 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.	• 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
	E-Safety	**Embedded** **Privacy and security** • I can give reasons why I should only share information with people I choose to and can trust. (Y1) **Specific** Online Reputation Keep me informed • I can identify ways that I can put information on the internet.	**Embedded** **Copyright and ownership** • I know that work I create belongs to me. **Specific** **Online Reputation** **Long time ago** • I can explain how information put online about someone can last for a long time.	**Embedded** **Managing online information** • I can use key phrases in search engines • I can use search technologies effectively **Copyright and ownership** • 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 • I can demonstrate the use of search tools to find and access online content which can be reused by others **Specific** **Copyright & Ownership** Is it ok to use this image? • I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.	**Embedded** **Self-image and identity** • I can describe ways in which people might make themselves look different online **Specific** **Privacy & Security** **Permission Mission** • I can explain what app permissions are and can give some examples. **Privacy Pro** • I can explain what a strong password is and demonstrate how to create one.	**Specific** **Self Image & Identity** **Guess the word** • I can explain how identity online can be copied, modified or altered. **Improving online profiles** • I can demonstrate how to make responsible choices about having an online identity, depending on context.	**Embedded** **Privacy and security** • I can describe strategies for keeping my personal information private, depending on context **Specific** **Self Image & Identity** **Toy Advert** • I can 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. **Report Worries** • I can explain the importance of asking until I get the help needed.

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Term 6	**Unit**	**Programming B** **Programming animations** *Designing and programming the movement of a character on screen to tell stories.*	**Programming B** **Programming quizzes** *Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz*	**Programming B** **Events and actions in programs** *Writing algorithms and programs that use a range of events to trigger sequences of actions.*	**Programming B** **Repetition in games** *Using a block-based programming language to explore count-controlled and infinite loops when creating a game.*	**Programming B** **Selection in quizzes** *Exploring selection in programming to design and code an interactive quiz.*	**Programming B** **Sensing** *Designing and coding a project that captures inputs from a physical device.*
	Objectives	• 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	• 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 • I can create a program based on the new design • To decide how my project can be improved	• 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 challenge	• 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 that 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	• 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 that uses selection • To create a program that uses selection • To evaluate my program	• To create a program to run on a controllable device • To explain that selection can control the flow of a program • To update a variable with a user input • To use an 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 •
	National Curriculum Objectives	• 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	• 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 • Use technology purposefully to create, organise, store, manipulate and retrieve digital content •	• 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 •	• 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	• 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	• 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 •
	E-Safety	**Specific** **Health, well being & Life style** Which rules are fair? • I can explain rules to keep myself safe when using technology both in and beyond the home.	**Specific** **Health, well being & Life style** Changing the rules • I can say how those rules / guides can help anyone accessing online technologies	**Specific** **Health, well being & Life style** Timetable / age consent • I can explain why spending too much time using technology can sometimes have a negative impact on anyone; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged • I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites). **Online Relationships** Let's get together • I can describe ways people who have similar likes and interests can get together online.	**Specific** **Health, well being & Life style** Life Vs Tech • I can explain how using technology can be a distraction from other things, in both a positive and negative way. **Online Relationships** Safety First • I can describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms)	**Specific** **Health, well being & Life style** A good nights sleep • I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively. **Online Relationships** Where's the harm in that? • 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.	**Specific** **Health, well being & Life style** Age related Content • I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. **Online Relationships** What's the impact? • I can explain how sharing something online may have an impact either positively or negatively