



Computing Long Term Plan

Online Safety Lessons are to be taught on the first day of every new half term and recapped at the start of each computing lesson and before pupils use devices.

Online Safety						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Autumn 1					
Online safety content	Kapow Using the internet safely	Kapow What happens when I post online?	BIL: SHARP Think Before You Share Is it OK to share?	BIL: SHARP Think Before You Share Whose profile is it anyway? How do others see us?	BIL: SHARP Think Before You Share Keeping it private That's not what I meant!	BIL: SHARP Think Before You Share Frame it
Learning Objectives	To recognise what the internet is and how to use it safely.	To decide which information is safe to share online	To understand what kinds of personal information should be kept private	To identify ways information can be found online about people To understand the importance of asking the question: How might others see this message differently from me?	To see privacy concerns from different people's points of view To understand the perspectives of other people when you're deciding whether or not to share information online	To understand media makers make choices about what to show and what to keep inside the frame

Key Vocabulary	Device, going online, internet, online safety, pop-up, responsible digital citizen, report, unkind	consent, offline, online, permission, personal information, sharing online, trusted adult	Online privacy, personal information, reputation	privacy, code, context, interpret, representation, frame	social media, assumption, curate, digital footprint, digital presence, fact, opinion	social media, assumption, curate, digital footprint, digital presence, fact, opinion, oversharing
	Autumn 2					
Online safety content	Kapow Online emotions	Kapow How do I keep my things safe online?	BIL: ALERT Check It's for Real Don't bite that phishing hook!	BIL: ALERT Check It's for Real Who are you really?	BIL: ALERT Check It's for Real It's not really true? Spotting disinformation online	BIL: ALERT Check It's for Real If we were a search engine Practising how to search online
Learning Objectives	To identify how people's feelings and emotions can be affected by online content	To practise keeping information safe and private online	To recognise signs of scam attempts	To understand that people contacting you may not be Who they say they are	To consider how certain things like expertise and motive affect credibility To know that checking multiple sources often helps you to see whether information is credible	To understand how a search engine works. To explore using a search engine and practise creating more effective search queries

Key Vocabulary	Device, internet, personal information, pop-up, stranger, trusted adult	password, personal information, private information	Catfishing, malicious, phishing, scam, authentic, spearphishing, trustworthy	Catfishing, malicious, phishing, scam, authentic, spearphishing, trustworthy	credible, expertise, motive, source, vlogger, deceptive, deceptive news, disinformation, evidence, misinformation, sceptical	Clickbait, keyword, query, search engine, internet search, search results
	Spring 1					
Online safety content	Kapow Always be kind and considerate	Kapow It's my choice	BIL: SECURE Protect Your Stuff But it wasn't me!	BIL: SECURE Protect Your Stuff How to build a great password	BIL: SECURE Protect Your Stuff Shh...Keep it to yourself!	BIL: SECURE Protect Your Stuff Taking care of yourself and others
Learning Objectives	To recognise how to treat others, both online and in person	To recognise when to deny permission online	To learn that sharing your password gives others control of your digital footprint To understand what can happen when someone logs in as you	To recognise the importance of sharing passwords only with your parents or guardians To understand the importance of screen lock that protects devices to know how to create passwords that are hard to get yet easy to remember	To customise privacy settings for online services you use To make decisions about information sharing on the different sites and services you use To understand what 2-factor and two-step verification is mean, and why to	To use a deceive to demonstrate where to look, and what to look for, when you're customising your privacy settings.

					use them	
Key Vocabulary	feelings, in-person interactions, kindness, online interactions	Accepting, denying permission, giving permission, permission, pressure, trusted adult	Privacy, security, settings, digital footprint, reputation	Privacy, security, settings, hacker, password, passcode	Privacy, security, settings, two-step verification	Privacy, security, settings,
	Spring 2					
Online safety content	Kapow Posting and sharing online	Kapow Is it true?	BIL: KIND Respect Each Other Noticing feeling	BIL: KIND Respect Each Other Your kindness gram	BIL: KIND Respect Each Other Turning negative into positive Mixed messages	BIL: KIND Respect Each Other How words can change the whole picture
Learning Objectives	To recognise the importance of being careful when posting and sharing online	To recognise that not everything online is true	To understand what empathy is To recognise why it's important to practise empathy online	To define kindness To recognise how kindness can affect people's feeling To identify ways to show kindness	To express feelings and opinions to, active ways To respond to negativity in constructive and civil ways To identify situations when waiting to communicate you are face-to-face with a peer is	To understand how caption can change what we think a picture is communicating To understand how to be a responsible media maker To develop the habit of asking, 'who posted this and why?'

					preferable to texting or messaging	
Key Vocabulary	app, appropriate, digital footprint, going online, posting online, sharing online, website	Fake, pop-up, real, reliable, source	empathy, feelings, emotions, online, digital empathy, clues, conversation	kindness, effect, feelings, online, off-line, Empathy, Insult, trash talk	feelings, opinions, positive, negative, constructive, civil, interaction, conflict, bullying, cyberbullying, harassment	Responsible, media maker, meaning, context, caption
	Summer 1					
Online safety content	Kapow How much time should we spend on technology?		BIL: BRAVE When in Doubt, Discuss Upstanders have options	BIL: BRAVE When in Doubt, Discuss Upstander options Seeing upsetting stuff (3.1)	BIL: BRAVE When in Doubt, Discuss Seeing Upsetting Stuff (3.2) What to do about mean stuff online	BIL: BRAVE When in Doubt, Discuss When to get help Report it online too
Learning Objectives	To discuss ways to balance time spent online and offline	To discuss ways to balance time spent online and offline	To identify situations of harassment or bullying online To evaluate what it means to be a bystander or upstander online	To understand that being an upstander is a choice To learn there are different ways to intervene and be an upstander in a specific situation To understand	To understand I can refuse to watch or engage with upsetting content To learn some strategies for refusing upsetting content. To understand it's	To discuss the 'when in doubt, discuss' principle. To discuss how to respond in a range of scenarios and understand when we should report issues online.

				what to do when I encounter upsetting content To create a plan for talking about what upset you with a trusted adult	okay to feel scared or sad if I see something upsetting on or off screen To know I can refuse to watch upsetting things in a show, game or video	
Key Vocabulary	internet, online activity, online experience, offline activity, screen time, technology		Media, choices, bullying, aggressor, supportive, harassment, Bystander, upstander, audience, target, report abuse, trust	Media, trust, upstander, intervene, safe, witness, publicly, privately, bullying, support, content, trusted adult, uncomfortable, report abuse	Media, content, refuse, reporting, trusted adult, report abuse	Media online, disrespectful, gossip, racist, homophobic, conflict, compromised, threatening, fake profile, report abuse, courageous
	Summer 2					
	Assessment: Computing Year 1 Online Safety	Assessment: Computing Year 2 Online Safety	Assessment: what they remember from the online safety lessons over the year.			

- **Learning Objectives in Bold must be taught**, the others are optional to add to the learning experience if time allows.

Computing Units of Work							
EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Context Continuous Provision / Enhance Provision / Child-led Activities Learning Objectives To explore and tinker with different hardware Two explore and tinker with hardware and identify where technology is used in familiar places such as home and school To learn what a keyboard is and how to locate relevant keys To learn what the		Autumn 1					
	Context	<i>Computing systems and networks:</i> Seesaw	<i>Computing systems and networks:</i> What is a computer?	<i>Computing systems and networks:</i> Networks	<i>Computing systems and networks:</i> Collaborative Learning	<i>Computing systems and networks:</i> Search Engines	<i>Computing systems and networks:</i> Bletchley Park
	Learning Objectives	To log into and use the Seesaw Eraser and Pen Tools To use the Seesaw Pen & Back Tool and Move Tool To use the Camera and Mic Tools To use Mic & Drawing Tools and Video Tools	To recognise the parts of a computer To recognise how technology is controlled To recognise technology To create and design an invention To understand the role of computers	To recognise what a network is To demonstrate how information moves around a network To demonstrate how a website works To explore the role of a router. To identify the	To understand that software can be used collaboratively online collaboratively To understand how to contribute to someone else's work effectively To understand how to create effective presentations	To understand what a search engine is and how to use it To be aware that not everything online is true To search effectively To create an informative poster To understand how search	To understand that there are many different types of secret codes To understand the importance of having a secure password To understand the importance of

<p>mouse/ touchpad is and developed control when using the mouse/ touchpad</p> <p>To to follow instructions as part of practical activities and games</p> <p>To learn to give simple instructions</p> <p>To learn to operate basic camera to take photographsOf their independent play</p> <p>To learn the meaning of directional arrows and follows simple sequence of instructions</p> <p>To experiment with programming Bee-Bot</p> <p>To tinker with</p>					<p>role of packet data.</p>	<p>engines work</p>	<p>Bletchley Park to the World War II war effort</p> <p>To research historical figures that contributed to technological advances in computing</p> <p>To research and present information about historical figures in computing</p>
	Key Vocabulary	<p>account, clip art, computer, log on, log off, mouse, password, resize, screen, software, tool, username</p>	<p>buttons, camera, computer, desktop, device, digital recorder, input, keyboard, laptop, monitor, mouse, output, robot, role,</p>	<p>component, file, network, network map, network switch, packet data, route, router, server, the cloud, User, user request, website,</p>	<p>average, bar chart, collaborate, data, data representation, document, email insert (file), link, multiple choice, numerical data, pie chart, presentation,</p>	<p>copyright, correct, credit, data leak, data privacy, deceive, fair, fake news, inaccurate information, inappropriate, keywords, network, online, real, search engine,</p>	<p>Acrostic code, brute force hacking, Caesar cipher, cipher, chip and pin system, code, combination, date shifts cipher, encrypt, invention, Nth letter cipher, password,</p>

<p>hardware to develop the familiarity</p> <p>To be introduced to relevant vocabulary</p> <p>To begin to understand how to debug, with the help of an adult, when things go wrong</p> <p>To sort and categorise objects</p> <p>To learn to interpret a basic pictogram</p> <p>Key Vocabulary</p> <p>Sort, organise, groups, questions, pictogram, Keyboard, keys, mouse, touchpad, click, drag, Camera, photographs, focus, selfie,</p>			scanner, system, technology, till, video	wi-fi, wired, wireless, wireless access point	share, slide, software, spreadsheet, survey, teamwork, theme, transition	TASK, website	pigpen cipher, scrambled, secret, secure, technological advancement, trial and error
	Spring 1						
	Context	<i>Programming:</i> Algorithms unplugged	<i>Programming:</i> Algorithms and debugging	<i>Computing systems and networks:</i> Journey inside a computer	<i>Programming:</i> Further coding with Scratch	<i>Data handling:</i> Mars Rover 1	<i>Data handling:</i> Big Data 1
	Learning Objectives	<p>To understand what an algorithm is</p> <p>To follow instructions precisely to carry out an action</p> <p>To understand that computers and devices around us use inputs and</p>	<p>To decompose a game to predict the algorithms that are used</p> <p>To understand the computers can use algorithms to make predictions (machine learning)</p>	<p>To recognise basic inputs and outputs</p> <p>To identify the components inside a laptop</p> <p>To understand the purpose of computer parts</p> <p>To understand the purpose of computer parts</p>	<p>To recall key features of scratch</p> <p>To understand how a Scratch game works by using decomposition to identify key features</p> <p>To understand what a variable is</p>	<p>To identify how and why data is collected from space</p> <p>To read and calculate numbers using binary code</p> <p>To identify the computer architecture of the Mars rovers</p>	<p>To identify how barcodes and QR codes work</p> <p>To know how infrared waves transmit data</p> <p>To recognise the uses of RFID</p> <p>To input and analyse real-world data</p>

Bee-bot, arrows, forward, backwards, left right, turn, debug		<p>outputs</p> <p>To understand and be able to explain what decomposition is</p> <p>To know how to debug an algorithm</p>	<p>The plan algorithms that will solve problems</p> <p>To understand what abstraction is</p> <p>To understand what debugging is</p>	To decompose a tablet computer	<p>To understand how to make variable in Scratch</p> <p>To create a quiz using variables</p>	<p>To use simple operations to calculate bit patterns</p> <p>To represent binary as text</p>	To analyse and evaluate data
	Key Vocabulary	<p>algorithm, bug, chunks, code, computer, correct, debug, decompose, directions, instructions, manageable, order, organising, problem, solution, specific, task</p>	<p>algorithm, abstraction, artificial intelligence, bug, correct, data, debug, decomposition, error, key features, predict, unnecessary</p>	<p>components, computer, computer program, CPU - Central Processing Unit, data, disassemble, GPU-graphics processing unit, hard drive, input, keyboard, RAM - Random Access Memory, monitor, mouse, output, ROM - Read Only Memory,</p>	<p>code, code block, conditional statement, coordinates, decompose, feature, information, negative number, orientation, position, program, project, Scratch, script, sprite, stage, tinker, variable, variable panel,</p>	<p>addition, binary code, binary numbers, 8-bit binary, data, data transmission, decimal numbers, discovery, distance, input, Mars Rover, numerical data, output, planet, radio signal, scientist, sequence, signal,</p>	<p>algorithm, barcode, brand, chip, column, commuter, contactless, data, encrypt, infrared, input, QR code, QR scanner, radio waves, RFID - Radio Frequency Identification Device, row, spreadsheet, systems analyst, wireless</p>

					quiz	subtraction	
	Spring 2						
	Context	<i>Creating media:</i> Digital imagery	<i>Data handling:</i> International space Station	<i>Creating media:</i> Video trailers	<i>Data handling:</i> Investigating weather	<i>Creating media:</i> Stop motion animation	<i>Creating media:</i> History of computers
	Learning Objectives	To understand and create a sequence of pictures To take clear photos To edit photos The search for and import images To create a photo collage	To understand how computers can help humans survive in space To create the digital drawing of essential items for life in space To understand the role of sensors on the ISS To create an algorithm for growing plant	To plan a book trailer To take photos or videos to tell story To edit a video To add text and transitions to a video To evaluate video editing	To log data taken from online sources in a spreadsheet To design a weather station To design an automated machine to respond to sensor data To understand how weather forecasts are made To use tablets or digital cameras to	To understand what animation is To understand what stop motion animation is To plan my stop motion video To create a stop motion animation To edit my stop motion animation	To tinker with audio recording To record, edit and add sound effects to radio play To understand how computers have changed and the impact this has had on the modern world To research one of the computers that changed

			space To interpret data		present a weather forecast		the world and present information about it to the class To design a computer of the future
	Key Vocabulary	camera, crop, delete, edit, editing software, image, photograph, photo story, sequence,	air conditioning, ammonia, astronaut, data, digital content, crew, Goldilocks zone, insulation, interactive map, international space station (ISS), Interpret, monitor (verb), satellite, sensor, space, survival, temperature, thermometer, urine, waste	application, cross dissolve, edit, fade to black, fade to white, film, film editing software, graphics, key events, plan, recording (media), sound effects, storyboard, theme, time code, trailer, transition, video, voice over, wipe	accurate, climate zone, condensation, degrees Celsius, evaporation, extreme weather, forecast, wind speed, heat sensor, lightning, measurement, satellite, sensor data, weather	animation, decompose, flipbook, frame, moving image, onion skinning, still image, stop motion, storyboard, thaumatrope, zoetrope	computer, byte, computer, CPU - Central Processing Unit, device, gigabytes, GPU - Graphics Processing Unit, graphics, hard drive, kilobytes, megabytes, memory storage, mouse, operating system OS, RAM- Random Access Memory, ROM - Read Only Memory, terabytes, touch screen,

			water				trackpad
	Summer 1 or Summer 2						
	Context	<i>Programming:</i> Virtual Bee-Bot	<i>Programming:</i> Scratch Jr	<i>Programming:</i> Scratch	<i>Programming:</i> Computational thinking	<i>Programming</i> Programming Music: Scratch	<i>Programming:</i> Intro to Python
	Learning Objectives	To explore a new device To create a demonstration video To plan and follow a precise set of instructions To program a device To create a program that tells a story	To explore a new application To create an animation To use characters as buttons To follow an algorithm To plan and use code to create an algorithm	To explore a programming application To use repetition (a loop) in a program To program an animation To program a story To program a game	To understand the computational thinking is made up of four key strands To understand what decomposition is and how to apply it to solve problems To understand what pattern recognition and abstraction	To tinker with Scratch music elements To create a program that plays themed music To plan a soundtrack program To program a soundtrack To program music	To tinker with a new piece of software To understand nested loops To understand basic Python commands To use loops when programming To understand the use of random numbers

					<p>mean</p> <p>To understand how to create an algorithm and what it can be used for</p> <p>To combine computational thinking skills to solve the problem</p>		
	Key Vocabulary	algorithm, Bee-Bot, clear, code, debug, program, explore, instructions, predict, review, test, tinker,	algorithm, animation, block, code, loop, repeat, scratch Jr, sequence	algorithm, coding, debug, game, loop, predict, program, repetition, sprite, storytelling, tinker	abstraction, algorithm design, code, computational thinking, decompose, input, logical reasoning, output, pattern recognition, variable	algorithm, basic commands, bug, code, debug, decompose, loop, pitch, program language, repeat, rhythm, Scratch, soundtrack, tempo, timbre, tinker	algorithm, code, command, design, import, indentation, input, instructions, loop, nested loop, pattern, repeat, shape