EYFS

Computing in the EYFS Curriculum

Although the technology strand has been removed from the EYFS curriculum, there are lots of other assessment opportunities that arise from delivering a well-planned Computing scheme. EYFS Computing lessons are largely cross-curricular with strong links to communication and language, mathematics, physical development and the characteristics of effective learning in particular. The computing curriculum for EYFS is centred around play based, unplugged activities that focus on building children's listening skills, curiosity, creativity and problem solving.

Technology in the Early Years can mean:

- taking a photograph with a camera or tablet
- searching for information on the internet
- playing games on the interactive whiteboard
- exploring an old typewriter or other mechanical toys
- using a Beebot
- watching a video clip
- listening to music

Allowing children the opportunity to explore technology in this child-led way, means that not only will they develop a familiarity with equipment and vocabulary but they will have a strong start in Key Stage 1 Computing and all that it demands.
The plans for Early Years include five units, made up of five lessons each. From exploring hardware to following and giving instructions - it is a precursor to coding, programming and more complex computing found within the Year 1 computing coverage.

Children in the Early Years learn best through play and practical application of skills. The EYFS computing scheme has been designed to align with Early Years pedagogy to ensure that not only are children accessing relevant areas of the curriculum but that they remain highly involved and engaged while doing so. The lessons in each unit involve a blend of teacher-led activities, enhanced provision provocations, active games and independent tasks.

There is flexibility in the timetabling of the sessions. You could choose to start with Unit 1 at the beginning of the year and teach one lesson per week, circling back around to the start when you have completed all 5 units or a lesson could be taught each fortnight.

https://www.kapowprimary.com/wp-content/uploads/2021/06/Computing-EYFS-overview-slides-23-07-21.pdf

Year R					
Y e a r R		**Computing systems and networks 1: Using a computer**	**Programming 1: All about instructions**	**Techsperts to support small group work: Programming 2: Programming Bee-Bots**	**Data handling: Introduction to data**
	Unit Overview	Lesson 1: Keyboards Learning what a keyboard is and how to locate relevant keys. Lesson 2: Logging in and out Learning to log in and out. Lesson 3: Mouse control Learning what a mouse is and developing control when using a mouse. Lesson 4: Mouse control - clicking Developing basic mouse skills, including moving and clicking and using an online paint tool. Lesson 5: Mouse control - clicking and dragging Developing basic mouse skills, including moving and clicking and using an online paint tool.	Lesson 1: Following instructions The class follow instructions as part of practical activities and games. Lesson 2: Giving simple instructions Learning to give simple instructions. Lesson 3: Dressing up instructions The children follow instructions as part of a dressing up game and learn to give simple instructions. Lesson 4: Debugging instructions (washing hands) The children follow instructions as part of a dressing up game and learn to give simple instructions. Lesson 5: Predictions Pupils learn that an algorithm is a set of instructions to carry out a task, in a specific order. They use logical reasoning to read simple instructions and predict the outcome.	Lesson 1: Understanding arrows Children learn the meaning of directional arrows and follow a simple sequence of instructions. Lesson 2: Introducing the Bee-Bot Children experiment with programming a Bee-Bot/Blue-Bot and tinker with hardware to develop familiarity and introduce relevant vocabulary. Lesson 3: Simple Bee-Bot programming Children experiment with programming a Bee-bot/Blue-bot and to learn how to give simple commands. Lesson 4: Understanding algorithms Children follow an algorithm as part of an unplugged game and learn to debug instructions when things go wrong. Lesson 5: Programming a Bee-Bot Experimenting with programming a Bee-Bot/Blue-Bot and learning how to give simple commands. Understanding how to debug instructions, with the help of an adult, when things go wrong.	Lesson 1: Loose parts play Children sort and categorise objects. Lesson 2: Sorting ourselves Children sort themselves into groups based upon given categories and then independently. Lesson 3: Yes or no? Children respond to yes/no questions as an introduction to branching databases. Lesson 4: Creating a branching database Children learn branching databases through physical sorting and categorising. Lesson 5: Exploring pictograms Children learn to interpret a basic pictogram.

Key Stage 1

National Curriculum Computing Objectives - Key Stage 1					
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	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.

KAPOW - Year 1							
Year 1		**Improving Mouse Skills** *Introducing children to logging in and using technology for a purpose, including creating art.*	**Programming 1: Algorithms Unplugged** *Learning how computers handle information by exploring 'unplugged' algorithms- completing tasks away from the computer*	**Programming 2: Bee-Bots** *Using Bee-Bots to navigate an area and constructing simple algorithms, through the story of The Three Little Pigs*	**Skills Showcase: Rocket to the Moon** *Appreciating the value of computers, understanding that they helped us get to the moon*	**Digital Imagery** *Taking and manipulating digital photographs, including adding images found via a search engine!*	**Introduction to Data** *Learning about what data is and how it can be represented and using these skills to show the findings of a minibeast hunt*
	Key Skills:	**Digital Literacy** Recognising common uses of information technology. Logging in and saving work on their own account. Knowing what to do if they have concerns about content or contact online. Understanding of how to create digital art using an online paint program. **Information Technology** Learning to locate where keys are on the keyboard. Developing basic mouse skills.	**Computer Science** Understanding how to create algorithms. Learning that computers need information to be presented in a simple and clear way. Understanding how to break a computational thinking problem into smaller parts in order to solve it.	**Computer Science** Learning how to explore and tinker with hardware to find out how it works. Constructing a series of instructions into a simple algorithm. Applying computing concepts to real world situation in an unplugged activity.	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Selecting software appropriately.	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Knowing what to do if they have concerns about content or contact online. **Computer Science** Using logical reasoning to predict the behaviour of simple programs. **Information Technology** Using cameras or tablets to take photos.	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content. Selecting software appropriately. **Information Technology** Recognising uses of technology beyond school.

	Key Knowledge:	Keyboard skills – locating the letters of individual names Using a mouse – click and drag, left/right click.	Planning and execution of an algorithm/set of instructions for a simple activity Basic debugging concepts Decomposition – how to breakdown objects into separate parts and categorise them	Bee-Bot – locating the buttons, battery compartment, on/off switch, wheels and speaker. Understanding Bee-Bot instructions and button functions – move forwards/backwards, turn left/right, clear, pause, go	Computer files and formats – .jpegs, .txt, folders. Using a computer to make a list/drawing and saving the document to a folder. How to make a bottle rocket.	How sequences work. Camera types and basic photography techniques. Tell a trusted adult about any online safety concerns.	How branching databases work. Other ways of collecting data – tally chart, bar graph, line graph, pictogram.
	Key Vocabulary:	account, clipart, computer,,log on, log off, mouse, password, resize, screen, (monitor), software, tool, username	algorithm, bug, computer, debug, decompose, device, input, instructions, output, solution	algorithm, bee-bot, computing code, computer program, explain, explore, instructions, predict, tinker, video	computer, computer, program, create, data, digital content, e-document, folder, list, save, sequence, share, spreadsheet	camera, crop, delete, download, drag and drop, editing software, image, import (software), photograph, resize, save, as, search engine, sequence, smart device, storage space, visual effects	branching, database, categorise, chart, computer, data, information, label, pictogram, record, sort, table, text
	Key Assessment Focus Skills:	To know that "log in and log out" means to begin and end a connection with a computer. To know that a computer and mouse can be used to add clip art and these can be edited by clicking and dragging with the mouse. To know that passwords are important for security.	To understand that an algorithm is when instructions are put in an exact order. To know that we call errors in an algorithm 'bugs' and fixing these is 'debugging'	To understand the basic functions of a Bee-Bot. To know that algorithms move a Bee-Bot accurately to a chosen destination.	To know that when we create something on a computer it can be more easily saved and shared than a paper version. To know some of the simple graphic design features of a piece of online software.	To understand that holding the camera still and considering angles and light are important to take good pictures. To know that you can edit, crop and filter photographs.	To know how charts and pictograms can be created using a computer. To understand that a branching database is a way of classifying a group of objects.
	Assessment Task:	Lesson 4: Show your skills Includes retrieval quiz and assessment activities.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/algorithms-unplugged/assessment-computing-y1-algorithms-unplugged/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/programming/programming-beebot/assessment-computing-y1-programming-bee-bot/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/rocket-to-the-moon/assessment-computing-y1-rocket-to-the-moon/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/new-unit-page-creating-media-digital-imagery/digital-imagery/assessment-computing-y1-digital-imagery/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/introduction-to-data/assessment-computing-y1-introduction-to-data/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.

	Natterhub Scheme of work	**Lesson 1 - Feel It:** Villains in Our Fairy Tales **Lesson 2 - Balance It:** Rockin' Rules **Lesson 3: Learn It:** My Wonderful Work **Lesson 4: Think It:** Goodies and Baddies **Lesson 5 - Chat It:** My Online Avatar **Lesson 6 - Secure It:** What Makes Me, Me.	**Lesson 7: Mind It:** My Online Profile **Lesson 8: Question It:** Internet Quest **Lesson 9: Balance It:** Sensible Screen Use **Lesson 10: Learn It:** Sharing is Caring **Lesson 11: Think It:** A Funny Feeling When Something is Wrong.	**Lesson 1: Chat It:** The Internet for Communication **Lesson 2: Secure It:** Why I Should Check Before I Share? **Lesson 3. Mind It:** One Click Can Last **Lesson 4. Question It:** Treasure Hunt **Lesson 5. Feel It:** Be Kind and Caring **Lesson 6. Balance It:** Alternative Activities to Screen Use	**Lesson 7. Learn It:** Lots to Learn **Lesson 8. Think It:** The Importance of Saying No **Lesson 9. Chat It:** Online Communication vs. Face-to-Face Communication **Lesson 10. Mind It:** To Share or Not to Share **Lesson 11. Question It:** Super Searcher	**Lesson 1: Feel It:** It's Nice to Be Nice **Lesson 2: Feel It:** Badge Round-Up **Lesson 3. Balance It:** Badge Round-Up **Lesson 4. Learn It:** Badge Round-Up **Lesson 5. Think It:** Badge Round-Up **Lesson 6. Chat It:** Badge Round-Up	**Lesson 7. Secure It:** Badge Round-Up **Lesson 8. Mind It:** Badge Round-Up **Lesson 9. Question It:** Badge Round-Up

KAPOW – Year 2

Year 2		**Computing Systems And Networks 1: What is a Computer?** *Children explore exactly what a computer is, identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention*	**Programming** 1: **Algorithms and Debugging** *Identifying problems with code using both 'unplugged' and 'plugged' systems to diagnose and correct errors in an algorithm- a process known as 'debugging'*	**Computing Systems and Networks 2: Word Processing** *Using their developing word processing skills, pupils write simple messages to friends and learn why we must be careful about who we talk to online*	**Programming 2: Scratch Jr** *Using the app 'ScratchJr', pupils programme a familiar story and an animation of an animal, make their own musical instruments and follow an algorithm to record a joke*	**Creating Media: Stop Motion** *To tell a story, children explore how to create an animation use stop motion technology Go to topic*	**Data Handling: International Space Station** *Building on their understanding of how computers sense what's going on around them, children learn how this can be used in the context of keeping astronauts healthy when on board the ISS*
	Key Skills:	**Computer Science** Learning about inputs and outputs and how they are used in algorithms. **Information Technology** Understanding what a computer is and the role of individual components.	**Computer Science** Creating and debugging simple programs. Using logical reasoning to predict the behaviour of simple programs. Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	**Digital Literacy** Using word processing software to type and reformat text. Understanding the importance of staying safe online.	**Computer Science** Creating and debugging simple programs. Using logical reasoning to predict the behaviour of simple programs. Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. **Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content.	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content. **Information Technology** Understanding how to use tablets or computers to take photos.	**Digital Literacy** Using technology to create and label images and to put data into a spreadsheet. **Computer Science** Consider inputs and outputs to understand how sensors work.
	Key Knowledge	Different types of technology – cameras, phones, torches, microwave, alarm clock, remote control Inputs e.g. keyboard, mouse Outputs e.g. monitor, speakers, printers	Zooming in and out of maps on Planet Earth Unplugged algorithms and instructional writing Abstraction/key information Decomposition/smaller chunks	Word processing – fonts, bold, italics, underline, highlight Keyboard skills – delete, enter, spacebar E-books and e-documents	Coding – Scratch Jr, code blocks, algorithms, sprites/speeds, repeat and loop control blocks, start/finish, direction Blocks – triggering, motion, looks, sound, end, control	Animations – how still images become moving images Use of animation software Sketching and planning	International Space Station – Node 1,2,3, Zvezda, Zarya, Destiny, Columbus, Kibo, survival items, growing plants in space

	Key Vocabulary:	battery, buttons, computer, desktop, device, electricity, import, invention, keyboard, laptop, monitor, mouse, output, technology, wire	abstraction, algorithm, artificial intelligence, bug, correct, data, debug, decompose, error, key, features, loop, predict, unnecessary	backspace, copyright, delete (text), image, import, keyboard, keyboard character, paste, (text), redo, touch typing, undo, word processing	algorithm, animation, bug, code (computer),code, (verb), debug, icon, imitate, , instructions, loop, repeat, scratch jr, sequence	animation, animator, contraption, decompose, design, device, download, film review, filming, import image, plan, sketch, software, stop motion, storyboard, upload	approximate, astronaut, data, digital content, experiment, interactive, map, international space, station i.s.s, interpret, laboratory, monitor (verb), satellite, sensor, space, survival, thermometer
	Key Assessment Focus Skills:	To know the difference between a desktop and laptop computer. To know some input devices that give a computer an instruction about what to do (output)	To understand what machine learning is and how it enables computers to make predictions. To know that abstraction is the removing of unnecessary detail to help solve a problem.	To know that touch typing is the fastest way to type. To know that “copy and paste” is a quick way of duplicating text.	To know that coding is writing in a special language so that the computer understands what to do. To understand that the character in ScratchJr is controlled by the programming blocks.	To understand that an animation is made up of a sequence of photographs.	To know what date to use to answer certain questions. To know that computers can be used to monitor supplies.
	Assessment Task:	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/what-is-a-computer/assessment-computing-y2-what-is-a-computer/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/algorithms-and-debugging/assessment-computing-y2-algorithms-and-debugging/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/new-unit-page-computing-systems-and-networks-2-word-processing/word-processing/assessment-computing-y2-word-processing/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/programming-scratch-jr/assessment-computing-y2-scratchjr/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/stop-motion-2/stop-motion-option-2-using-tablet-devices/assessment-computing-y2-stop-motion-option-1-using-tablet-devices/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/international-space-station/assessment-computing-y2-international-space-station/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.
	Natterhub Scheme of work	**Lesson 1 - Feel It:** Meaningful Moments **Lesson 2 - Balance It:** Devices and Screen Time **Lesson 3: Learn It:** The Work of Others **Lesson 4: Think It:** Online Identity **Lesson 5 - Chat It:** Kind Communication **Lesson 6 - Secure It:** Protecting My Privacy	**Lesson 7: Mind It:** Follow the Digital Footprints **Lesson 8: Question It:** Online Navigators **Lesson 9: Feel It:** Sticks and Stones **Lesson 10: Balance It:** Device Decisions **Lesson 11: Learn It:** Super Saver	**Lesson 1: Think It:** Power of Persistence **Lesson 2: Chat It:** Communicating with People We Don’t Know **Lesson 3. Secure It:** Device Detectives **Lesson 4. Mind It:** How Long Does Information Last? **Lesson 5. Question It:** “Ok Google…” **Lesson 6. Feel It:** Be Brave Stand Tall	**Lesson 7. Balance It:** Choose Wisely **Lesson 8. Think It:** Trusted Adults **Lesson 9. Chat It:** Chat Choices **Lesson 10. Mind It:** We All Make Mistakes	**Lesson 1: Question It:** Real and Reliable **Lesson 2: Feel It:** Badge Round-Up **Lesson 3. Balance It:** Badge Round-Up **Lesson 4. Learn It:** Badge Round-Up **Lesson 5. Think It:** Badge Round-Up **Lesson 6. Chat It:** Badge Round-Up	**Lesson 7. Secure It:** Badge Round-Up **Lesson 8. Mind It:** Badge Round-Up **Lesson 9. Question It:** Badge Round-Up

Key Stage 2

National Curriculum Computing Objectives - Key Stage Two						
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	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.

KAPOW – Year 3							
Year 3		**Computing systems and networks 3: Journey inside a computer** *Children learn about different parts of a computer through role-play and develop their understanding of how they follow instructions*	**Programming: Scratch** *Using Scratch, with its block-based approach to coding, pupils learn to tell stories and create simple games.*	**Data Handling: Comparison cards databases** *Developing their understanding of data and databases, children play with and create their own Top Trumps cards, learning how to interpret information by ordering and filtering*	**Computing systems and networks 1: Networks and the internet** *To understand how computers communicate, children learn about networks and the internet, and how they are used to share information*	**Computing systems and networks 2: Emailing** *Pupils learn to send emails, including attachments and how to be responsible digital citizens*	**Creating media: Video trailers** *Developing their video skills, pupils create a trailer, storyboarding their trailers before then filming and editing their videos, adding effects such as transitions, music, voice and text*
	Key Skills:	**Information Technology** Understanding what different components of a computer do. **Computer Science** Understanding that programs execute by following precise and unambiguous instructions.	**Computer Science** Using logical reasoning to explain how simple algorithms work. Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems.	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve data.	**Computers and Hardware** Identifying network components and understand how they are used to connect to the internet and how data is transferred. **Digital Literacy**	**Digital Literacy** Learn about cyberbullying and fake emails Understand the purpose of emails.	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content including searching for relevant information.

			Solving problems by decomposing them into smaller parts. Using sequence, selection and repetition in programs. Working with variables and various forms of input and output		Understanding 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		
	Key Knowledge:	Computer parts – CPU, GPU, RAM, HDD QR Codes and how to use them Other portable electronic devices	Scratch – building games and animations Choosing sprites, painting sprites, surprise sprites, uploading sprites Key for Scratch colour coding blocks	Identifying and reading databases. Understanding bar graphs and pie charts.	Network maps – house, router, ISP, smart phones, web server, cables Internet uses – communication, file sharing, websites, uploading/downloading, streaming media, games	Keyboard skills - @ symbol Email compose windows – addresses, subjects Be careful with unexpected emails	Digital media – transitions, morph, cross zoom, peel off, dip to black, directional wipe Digital sound waves – viewing and editing
	Key Vocabulary:	algorithm computer computer program cpu data desktop gpu hard disk drive (hdd) instructions qr code ram rom tablet device trackpad	animation application code code block debug decompose interface loop predict program remixing code review sprite tinker	categorise data database fields (data) filter (data) graphs and charts information record sort spreadsheet	device dsl file internet network network map network switch router server submarine cables the cloud wifi wired wireless wireless access point	account attachment bcc cc computer cyberbully cyberbullying domain email email account emoji information log off log on password spam username	application desktop digital device edit film film editing software graphics import (software) key events laptop plan recording (media) sound effects time code video voiceover
	<u>Key Assessment Focus Skills:</u>	To know what some of the different components inside a computer are e.g. CPU, RAM, hard drive, and how they work together.	To know that Scratch is a programming language and some of its basic functions.	To know that a database is a collection of data stored in a logical, structured and orderly manner. To know that computer databases can be useful	To understand what a network is and how a school network might be organised. To know how the internet uses networks to share files.	To know that an attachment is an extra file added to an email. To understand that emails should contain appropriate and respectful content.	To know that I can edit photos and videos using film editing software.

				for sorting and filtering data.			
	Assessment Task:	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/journey-inside-a-computer/assessment-computing-y3-journey-inside-a-computer/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/programming-scratch/assessment-computing-y3-programming-scratch/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/top-trumps-databases-2/comparison-cards-databases/assessment-computing-y3-comparison-cards-databases/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/computing-systems-and-networks-1-networks-and-the-internet/networks-and-the-internet/assessment-computing-y3-networks-and-the-internet/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/year-3-emailing-unit/emailing/assessment-computing-y3-emailing/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/digital-literacy-2/video-trailers-using-ipads-assessment/assessment-computing-y3-digital-literacy-option-2-using-ipads/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.
	Natterhub Scheme of work	**Lesson 1 - Feel it:** Affect Reflect **Lesson 2 - Balance it:** When Screen Time Goes On Too Long **Lesson 3: Learn It:** Other People's Projects **Lesson 4: Think It:** Real-Life and Online Identity **Lesson 5 - Chat It:** Making New Friends Online **Lesson 6 - Secure It:** Choose Wisely: Should I Share?	**Lesson 7: Mind it:** Identifying Information **Lesson 8: Question it:** Thinking Technology **Lesson 9: Feel It:** Look Closely **Lesson 10: Balance It:**Screen Effects	**Lesson 1: Think it:** Online Identity and Positive Self-Talk **Lesson 2: Chat it:** Different Friendships **Lesson 3. Secure It:** Protecting Powerful Passwords **Lesson 4. Mind It:** Think Before You Type and Share **Lesson 5. Question It:** Buy or Sell **Lesson 6. Feel It:** Being Kind and Friendly	**Lesson 7. Balance it:** If Life Only Existed Online **Lesson 8. Think it:** Plotting the Right Path **Lesson 9. Chat It:** Trust Tips **Lesson 10. Mind It:** Ask If I Care Before You Share	**Lesson 1: Secure It:** Clever Connections **Lesson 2: Question It:** Right or Wrong **Lesson 3. Balance It:** Badge Round-Up **Lesson 4. Learn It:** Badge Round-Up **Lesson 5. Think It:** Badge Round-Up **Lesson 6. Chat It:** Badge Round-Up	**Lesson 7. Feel It:** Badge Round-Up **Lesson 8. Mind It:** Badge Round-Up **Lesson 9. Question It:** Badge Round-Up **Lesson 10. Secure It:** Badge Round-Up

KAPOW – Year 4

Year 4		**Computing systems and networks: Collaborative Learning** *Learning to work collaboratively in a responsible way using tools including Google Docs and Sheets*	**Programming 1: Further coding with Scratch** *The coding program Scratch is explored further by revisiting key features and introducing the children to the crucial concept and execution of using 'variables' in code scripts*	**Programming 2: Computational thinking** *Through developing their understanding of the four pillars of computational thinking, children learn to identify them in different contexts.*	**Skill showcase: HTML** *Pupils explore the language behind well-known websites, while developing their understanding of how to change the core characteristics of a website using HTML and CSS*	**Data handling: Investigating weather** *Children investigate the role of computers in forecasting and recording weather as well as how technology is used to present forecasts*	**Creating media: Website design** *Pupils design and create their own websites, considering content and style as well as understanding the importance of working collaboratively*
	Key Skills:	**Digital Literacy** Selecting using and combing a variety of software to design and create a range of programs, systems and content that accomplish given goals. Understanding opportunities offered by the World Wide Web for communication and collaboration.	**Computer Science** Using logical reasoning to explain how simple algorithms work. Designing, writing and debugging programs that accomplish specific goals, including controlling or simulating physical systems. Solving problems by decomposing them into smaller parts. Using sequence, selection and repetition in programs. Working with variables and various forms of input and output	**Computer Science** Understand what decomposition is and how it facilitates problem solving Designing, writing and debugging programs that accomplish specific goals Understand abstraction and patterns recognition	**Digital Literacy** Recognising that information on the Internet might not be true or correct. Using technology safely, by recognising acceptable/unacceptable behaviour. Knowing what to do when they have concerns about content or contact online. **Computer Science** Understanding that websites can be altered by exploring the code beneath the site. designing, writing and debugging programs that accomplish specific goals. Solving problems by decomposing them into smaller parts.	**Digital Literacy** Understanding why some sources are more trustworthy than others **Computer Science** Understanding the role of inputs and outputs in computerised devices	**Digital Literacy** Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals. Understanding opportunities offered by the World Wide Web for communication and collaboration
	Key Knowledge:	Collaborative online documents Presentation skills	Scratch coding blocks – motion, sound, looks, events, control, operators, sensing, variables, my blocks Scratch sprites	Decomposition - data without any identification, order or sequence Sequencing and pattern recognition	HTML code CSS code HTML tags – head, body, ordered lists, list items, image, line break	Weather station – sensors, anemometer, probes, data recording, solar panel, rain gauge Weather satellites – altimeter, GPS, solar array, data transmission	Websites – making a new site, building a new page, add text boxes, inserting files, changing themes, embedding links

						Green screen – how a subject can placed in a different background (chroma key)	
	Key Vocabulary:	collaborate comment e-document edit email icon insert link presentation software presentation reply reviewing comments share spreadsheet transition	code code block conditional statement decompose direction feature icon orientation position program verb project scratch sprite stage tinker variable	abstraction algorithm design code code blocks computational thinking computer decompose pattern recognition problem sequence	code content copyright css hacker hex code html internet browser permission script url web page	algorithm automated machine calculate climate device forecast log data predict record sensor source spreadsheet temperature weather	collaboration content create design edit embed feature header hyperlink insert online plan tab web page website www
	<u>Key Assessment Focus Skills:</u>	To understand that software can be used collaboratively online to work as a team. To know what type of comments and suggestions on a collaborative document can be helpful.	To understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch. To understand that variables can help you to create a quiz on Scratch.	To know that combining computational thinking skills can help you to solve a problem. To understand that pattern recognition means identifying patterns to help them work out how the code works.	To understand and identify examples of HTML tags. To understand what changing the HTML and CSS does to alter the appearance of an object on the web.	To know that computers can use different forms of input to sense the world around them so that they can record and respond to data ('sensor data'). To know that a weather machine is an automated machine that responds to sensor data.	To know that a website is a collection of pages that are all connected. To know that websites usually have a homepage and subpages as well as clickable links to new pages, called hyperlinks.
	<u>Assessment Task:</u>	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/collaborative-learning-2/collaborative-learning/assessment-collaborative-learning/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/new-unit-page-programming-1-further-coding-with-scratch/further-scratch/assessment-art-and-design-y4-futher-coding-with-scratch/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/computational-thinking/assessment-art-and-design-y4-computational-thinking/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/html/assessment-art-and-design-y4-html/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/data-handling-investigating-weather/investigating-weather/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/website-design-2/website-design/assessment-art-and-design-y4-website-design/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.

	Natterhub Scheme of work	**Lesson 1 - Feel it:** Where On The Web? **Lesson 2 - Balance it:** Time on Technology **Lesson 3: Learn It:** Copyright Concerns **Lesson 4: Think It:** Online Identities **Lesson 5 - Chat It:** The What and the Why **Lesson 6 - Secure It:** Powerful Passwords	**Lesson 7: Mind it:** My Personal Information Online **Lesson 8: Question it:** Opinions, Beliefs and Facts **Lesson 9: Feel It:** Online Bullying **Lesson 10: Balance It:** Sleep Matters **Lesson 11: Learn It:** Right to Refuse	**Lesson 1: Think it:** Online Armour **Lesson 2: Chat it:** Choosing a Safe Screen Name **Lesson 3. Secure It:** They Want To Be Me **Lesson 4. Mind It:** Copies, Changed and Shared **Lesson 5. Question It:** But Is It True? **Lesson 6. Feel It:** Pause Before You Post	**Lesson 7. Balance it:** Managing Your Screen Time **Lesson 8. Think it:** Who To Turn To **Lesson 9. Chat It:** Positive Online Chat **Lesson 10. Mind It:** Posts From the Past	**Lesson 1: Question It:** Ad Power **Lesson 2: Learn It:** Consider the Content **Lesson 3. Balance It:** Badge Round-Up **Lesson 4. Secure It:** My History Online **Lesson 5. Feel It:** Badge Round-Up **Lesson 6. Chat It:** Badge Round-Up	**Lesson 7. Think It:** Badge Round-Up **Lesson 8. Mind It:** Badge Round-Up **Lesson 9. Question It:** Badge Round-Up **Lesson 10. Learn It:** Badge Round-Up **Lesson 11. Secure It:** Badge Round-Up

KAPOW – Year 5

Year 5		**Data handling: Mars Rover 1** *Pupils explore inputs and outputs as well as Binary numbers to understand how the Mars Rover transmits and receives data and how scientists are able to control it to explore another planet!*	**Skills showcase: Mars Rover 2** *Children learn how the Mars Rover is able to send images all the way back to Earth and experiment with online CAD software to design new tyres for it*	**Creating media: Stop motion animation** *Children explore animation, then focus on stop-motion animation before planning, creating and editing their own stop-motion animations*	**Computing systems and networks: Search engines** *Children learn how to use keywords and phrases, identify inaccurate information and develop their understanding of how page ranking works. They will learn how to credit their sources accurately*	**Programming 1: Music (Scratch)** *Pupils further develop their coding and music skills to different sounds, beats and melodies when they create the soundtrack to a film clip*	**Programming 2: Micro:bit** *Programming a small device called a micro:bit to display animations or messages on its simple LED display using block coding*
	Key Skills:	**Digital Literacy** Understanding 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 **Information Technology** Using search technologies effectively, appreciating how results are selected and ranked, and be discerning in evaluating digital content Recognising that computers transfer data in binary and understand simple binary addition	**Digital Literacy** Developing their CAD skills **Information Technology** Understanding how image data is transferred	**Digital Literacy** Using technology purposefully to create, organise, store, manipulate and retrieve digital content. **Information Technology** Understanding how to use tablets or computers to take photos. **Computer Science** Consider sequence and selection of frames when editing work.	**Digital Literacy** Recognising that information on the internet might not be true or correct. Know how to use keywords to quickly find accurate information.	**Digital Literacy** Selecting using and combining a variety of software to design and create a range of programs, systems and content that accomplish given goals **Computer Science** Using programming language to create music, including use of loops	**Computer Science** Using block coding to program a device To explore variables and different forms of input **Information Technology** Understand how external devices can be programmed by a separate computer
	Key Knowledge:	Mars Rover – distance and time travelled Binary numbers and equivalent decimal values	Digital Images – a series of programmed pixels RGB colour mode – produces a spectrum of colours	How animations developed over time. How still images become animations. Use of animation software.	Search Engines – search bar, company logo, hyperlink, keywords, fake news	Sonic Pi interface – play controls, editor controls, information and help controls, code editor, scope, log viewer Live loop, simple melody, selecting sounds	BBC Micro:bit – front and back features that can be included as part of an algorithm Code blocks key – basic, input, music, LED, radio, loops, logic, variables, math(s)

	Key Vocabulary:	binary code data data transmission discovery distance input mars rover moon numerical data output planet radio signal scientist sequence signal computer simulation space (astronomy)	algorithm binary image bit bit pattern cad compression file cpu data digital image encode image jpeg memory computer operating system pixels rgb	animation animator background decompose duplicate editing frame illusion onion skinning stop motion storyboard	algorithm company logo data leak data privacy fake news inaccurate information index keywords (internet) network online page rank search engine task web crawler website www	basic commands bug code (computer) code (verb) debug error live loop loop pitch program language rhythm sonic pi soundtrack tempo timbre tinker	.hex file .zip file bluetooth code blocks decompose emulator feature loop micro:bit pedometer predict systematic tinker variable
	Key Assessment Focus Skills:	To know that Mars Rover is a motor vehicle that collects data from space by taking photos and examining samples of rock. To know what numbers using binary code look like and be able to identify how messages can be sent in this format.	To understand that bit patterns represent images as pixels. To understand that the data for digital images can be compressed.	To understand that stop motion animation is an animation filmed one frame at a time using models, and with tiny changes between each photograph. To know that editing is an important feature of making and improving a stop motion animation.	To know how search engines work. To understand that anyone can create a website and therefore we should take steps to check the validity of websites.	To know that a soundtrack is music for a film/video and that one way of composing these is on programming software. To understand that using loops can make the process of writing music simpler and more effective	To know that a Micro:bit is a programmable device. To understand and recognise coding structures including variables.
	Assessment Task:	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/mars-rover-1/assessment-computing-y5-mars-rover-1/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/mars-rover-2/assessment-computing-y5-mars-rover-2/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/stop-motion-animation-2/stop-motion-animation/assessment-computing-y5-animation-stop-motion-studio/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/computing-systems-and-networks-search-engines/search-engines/assessment-computing-y5-search-engines/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/programming-music/programming-music-option-2-scratch-suitable-for-tablets-and-chromebooks/assessment-computing-y5-programming-music-scratch/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/microbit/assessment-computing-y5-micro-bit/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.

	Natterhub Scheme of work	**Lesson 1 - Feel it:** Looking After Our Friends **Lesson 2 - Balance it:** Is Technology Bad for Our Health **Lesson 3: Learn It:** Search for Skills **Lesson 4: Think It:** What Information Should You Share Online? **Lesson 5 - Chat It:** Recognising Negative Behaviour **Lesson 6 - Secure It:** Pick a Perfect Password	**Lesson 7: Mind it:** Project Part 1: Search for Information **Lesson 8: Question it:** Searching Skills **Lesson 9: Feel It:** Helping Our Friends **Lesson 10: Balance It:** Health, Wellbeing and Technology **Lesson 11: Learn It:** Reuse and Review	**Lesson 1: Think it:** Fake Profiles **Lesson 2: Chat it:** Contributing to Online Groups **Lesson 3. Secure It:** Nosy Apps! **Lesson 4. Mind It:** Project Part 2: Facts or Fiction **Lesson 5. Question It:** Misinformation vs. Disinformation **Lesson 6. Feel It:** Beat the Bullies	**Lesson 7. Balance it:** Digital Wellness **Lesson 8. Think it:** Are Fake Profiles OK? **Lesson 9. Chat It:** Feeling Left Out **Lesson 10. Mind It:** Project Part 3: Assess the Fake Information **Lesson 11: Question It:** Inaccurate Information	**Lesson 1: Learn It:** Time to Teach **Lesson 2: Secure It:** Greedy Apps! **Lesson 3. Think It:** Badge Round-Up **Lesson 4. Feel It:** Badge Round-Up **Lesson 5. Chat It:** Badge Round-Up **Lesson 6. Balance It:** Badge Round-Up	**Lesson 7. Mind It:** Badge Round-Up **Lesson 8. Question It:** Badge Round-Up **Lesson 9. Learn It:** Badge Round-Up **Lesson 10. Secure It:** Badge Round-Up

KAPOW – Year 6

Year 6		**Creating Media: History of Computers** *Children write, record and edit radio plays set during WWII, look back in time at how computers have evolved and design a computer of the future. Options for schools that use Google or Microsoft.*	**Computing systems: Bletchley Park** *Children learn about the history of Bletchley Park and learn about code breaking and password hacking.*	**Programming: Intro to Python** *Building on their knowledge of coding from previous years, children are introduced to the text-based programming language Python, which is the language behind many apps and programs, such as Dropbox*	**Data handling: Big Data 1** *Children learn how data is collected and stored by exploring barcodes, QR codes and RFID chips, and investigate how collecting big data can be used to help people in a variety of different scenarios*	**Data handling: Big Data 2** *Children learn the difference between mobile data and WiFi and how data is transferred and use their understanding of big data to design their own smart school*	**Skills Showcase: Inventing a product** *Reflecting on and showcasing their computing skills, pupils create an entire project around a specific theme*
	Key Skills:	**Digital Literacy** Editing sound recordings for specific purpose. **Information Technology** Learning about the history of computers and how they evolved over time.	**Digital Literacy** Understanding the importance of secure passwords and using searching and word processing skills to create a presentation **Computer Science** Using programming software to understand hacking, relating this to computer cracking codes in WWII	**Computer Science** Understanding that websites can be altered by exploring the code beneath the site Designing, writing and debugging programs that accomplish specific goals Solving problems by decomposing them into smaller parts	**Digital Literacy** Understanding how learning can be applied to a real world context Selecting, using and combining a variety of software to design and create a range of programs, systems and content to collect, analyse, evaluate and present data **Information Technology** Understanding that computer networks provide multiple services Understanding how barcodes and QR codes work	**Digital Literacy** Selecting, using and combining a variety of software to design and create a range of programs, systems and content to collect, analyse, evaluate and present data	**Digital Literacy** Showcasing their digital literacy skills **Computer Science** Demonstrating their computational thinking skills by designing and debugging programs, using different inputs and outputs **Information Technology** Understanding how search engines work and knowing how to use them safely and effectively
	Key Knowledge:	Y Service locations – British wireless intercept stations. Operators tuning in to enemy messages. Memory sizes – KB, MB, GB, TB	Demographic and amount of workers, The Colossus, encrypted messages, date shift cypher, first electronic programmable computer	Python code – indentation, variable, loop Teaches computers to think for themselves - AI Algorithm – making a cup of tea	Infrared light, barcodes – how they work and their uses	Wireless data transfer – barcodes, QR codes, NFC, Bluetooth, RFID What 100MB looks like – real life examples (e.g. one 30 minute TV show)	Application of previous knowledge

	Key Vocabulary:	background noise byte computer cpu memory storage mouse operating system (os) radio play ram rom sound effects touch screen trackpad	acrostic code brute force hacking caesar cipher chip and pin system cipher date shift cipher encrypt invention nth letter cipher password pigpen cipher technological advancement trial and error	algorithm code (computer) computer command decompose import (software) indentation (programming) loop nested loop random numbers remix script libraries variable	barcode boolean brand commuter contactless data data privacy encrypt infrared waves nfc qr code radio waves rfid signal systems or data analyst transmission	big data bluetooth corrupt data digital revolution gps infrared waves internet of things (iot) qr code rfid sim computer simulation smart school/city	adapt advertisement algorithm bug cad computer code code (verb) design edit electronic components image rights image input information invention loop output photo program repetition (code) screenshot selection (programing) sequence variable www
	Key Assessment Focus Skills:	To know that radio plays are plays where the audience can only hear the actions so sound effects are important.	To know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in WWII. To know about some of the historical figures that contributed to technological advances in computing.	To know that there are text-based programming languages such as Logo and Python. To know that nested loops are loops inside of loops. To understand the use of random numbers and remix Python code.	To know that data contained within barcodes are QR codes can be used by computers. To know that infrared waves are a way of transmitting data.	To know that data can become corrupted within a network but this is less likely to happen if it is sent in 'packets'.	To know what designing an electronic product involves. To know which programming software/language is best to achieve a purpose.
	Assessment Task:	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/history-of-computers/history-of-computers/assessment-art-and-design-y6-history-of-computers/ Pupil answer sheet and knowledge catcher to be downloaded and	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/computing-systems-and-networks-bletchley-park/bletchley-park-1-2/assessment-art-and-design-y6-bletchley-park/ Pupil answer sheet and knowledge catcher to	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/intro-to-python/assessment-art-and-design-y6-introduction-to-python/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/big-data-1/assessment-art-and-design-y4-big-data-1/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/big-data-2/assessment-art-and-design-y6-big-data-2/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.	Assessment quiz and resources found here: https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/designing-a-product-skills-showcase/skills-showcase/assessment-art-and-design-y6-skills-showcase/ Pupil answer sheet and knowledge catcher to be downloaded and completed at the end of the unit.

		completed at the end of the unit.	be downloaded and completed at the end of the unit.				
	Natterhub Scheme of work	**Lesson 1 - Feel it:** Getting Help and Reporting Concerns **Lesson 2 - Balance it:** Online Temptations and Pressures **Lesson 3: Learn It:** Expanding Our Horizons **Lesson 4: Think It:** Is Everyone Welcome Online? **Lesson 5 - Chat It:** Our Class Code of Conduct **Lesson 6 - Secure It:** How to Password	**Lesson 7: Mind it:** My Online Reputation **Lesson 8: Question it:** Using Search Engines Effectively **Lesson 9: Feel It:** Gathering Evidence **Lesson 10: Balance It:** You Decide! **Lesson 11: Learn It:** Technology for Good	**Lesson 1: Think it:** Permission To Be You! **Lesson 2: Chat it:** Think Before You Share **Lesson 3. Secure It:** Spot the Scams **Lesson 4. Mind It:** Be Aware of My Digital Footprint **Lesson 5. Question It:** Fake News and False Claims **Lesson 6. Feel It:** "Ban Bullying" Campaign	**Lesson 7. Balance it:** Screen Time and Self-Regulation **Lesson 8. Think it:** Reporting Scams and Getting Help **Lesson 9. Chat It:** Finding Support **Lesson 10. Mind It:** Safeguarding Your Future	**Lesson 1: Question It:** Check Your Facts **Lesson 2: Feel It:** Badge Round-Up **Lesson 3. Balance It:** Badge Round-Up **Lesson 4. Learn It:** Badge Round-Up **Lesson 5. Think It:** Badge Round-Up **Lesson 6. Chat It:** Badge Round-Up	**Lesson 7. Secure It:** Badge Round-Up **Lesson 8. Mind It:** Badge Round-Up **Lesson 9. Question It:** Badge Round-Up

Computing Glossary

Vocabulary

Vocabulary is an important part of teaching and learning. In this glossary, we have explained a selection of the computing-specific vocabulary derived from our Computing Curriculum in order to support your understanding of these key terms. Throughout your Computing teaching, please introduce new terms and revisit them often.

Term	Key Stage	Definition
Algorithm	R, 1&2	A precise set of ordered steps that can be followed by a human or a computer to achieve a task
Attribute (property)	1&2	A word or a phrase that can be used to describe an object such as its colour, size, or price
Browser	R, 1&2	SEE: Web browser
Code	1&2	The commands that a computer can run
Code snippet	1&2	A section of a program viewed in isolation
Command	1&2	A single instruction that can be used in a program to control a computer
Computer	R, 1&2	A programmable machine that accepts and processes inputs and produces outputs (input, process, output; IPO)
Computer network	R, 1&2	A group of interconnected computing devices

Computer system	1&2	A combination of hardware and software that can have data input to it, which it then processes and outputs. It can be programmed to perform a variety of tasks.
Condition	2	A statement that can be either True or False
Condition-controlled loop	2	SEE: Loop (condition-controlled)
Count-controlled loop	2	SEE: Loop (count-controlled)
Data	R, 1&2	A letter, word, number etc. that has been collected for a purpose, but stored without context
Data set	2	A collection of related data
Debugging	R, 1&2	The process of finding and correcting errors in a program
Decompose	1&2	To break down a task into smaller, more achievable steps
Digital device	R, 1&2	A computer or a device with a computer inside that has been programmed for a specific task
Domain name	2	The part of a website's URL that is user friendly and identifies that it is under the control of a particular person or organisation e.g. raspberrypi.org
Execute (run)	2	SEE: Run
Hardware	R, 1&2	The physical parts of a computer system
HTML (HyperText Markup Language)	2	A standardised language used to define the structure of web pages
Hyperlink	2	(Also: link, weblink) Text or media that when clicked, takes the user to another specified location (URL)
Infinite loop	2	SEE: Loop (infinite)
Information	R, 1&2	Data put into a context that provides meaning
Information technology	1	The study, use, and development of computer systems for storing, processing, retrieving, and sending information
Input	2	Data that is sent to a program to be processed
Input device	2	A piece of hardware used to control, or send data to, a computer
Internet	R, 1&2	The global system of interconnected computer networks

Loop	2	(Count-controlled, condition-controlled, or infinite) Commands that repeatedly run a defined section of code
Loop (condition-controlled)	2	A command that repeatedly runs a defined section of code until a condition is met
Loop (count-controlled)	2	A command that repeatedly runs a defined section of code a predefined number of times
Loop (infinite)	2	A command that repeatedly runs a defined section of code indefinitely
Network	R, 1&2	SEE: Computer network
Object	1	Something that can be named and has other attributes (properties), which can be labelled
Object	2	Something that is uniquely identifiable and has attributes
Output	2	The result of data processed by a computer
Output device	2	A piece of hardware that is controlled by outputs from a computer
Procedure	2	A named set of commands that can be called multiple times throughout a program. This type of subroutine does not return a value.
Process	2	A program, or part of a program, that is running on a computer
Program	R, 1&2	A set of ordered commands that can be run by a computer to complete a task
Property (attribute)	1	A word or a phrase that can be used to describe an object such as its colour, size, or price
Repetition	2	Part of a program where one or more commands are run multiple times in a loop
Router	2	A device that manages the flow of data between computer networks
Run (execute)	1&2	To action the commands in a program
Selection	2	Part of a program where if a condition is met, then a set of commands is run
Server	2	A networked computer that manages, stores, and provides data such as files to other computers
Software	R, 1&2	The programs used to control computers and perform specific tasks
Stored (data)	2	Data kept digitally so that it can be accessed by a computer
Subroutine	2	A named sequence of commands designed to perform a specific task

Switch (network switch)	2	A device that manages the flow of data packets within a computer network
Technology	1	The use of scientific knowledge for practical purposes
URL (Uniform Resource Locator)	2	The address of a file on the internet
Variable	2	A named piece of data (often a number or text) stored in a computer's memory, which can be accessed and changed by a computer program
Web	R, 1&2	SEE: WWW (World Wide Web)
Web address	R, 1&2	SEE: URL (Uniform Resource Locator)
Web browser	R, 1&2	A program used to view, navigate, and interact with web pages
Web page	R, 1&2	A HTML document viewed using a web browser
Website	R, 1&2	A collection of interlinked web pages, stored under a single domain
WiFi	R, 1&2	A technology that allows devices to wirelessly access a network and transfer data
WAP (Wireless Access Point)	2	A network device that allows wireless computing devices to connect to a wired network
WWW (World Wide Web)	R, 1&2	A service provided via the internet that allows access to web pages and other shared files
URL (Uniform Resource Locator)	2	The address of a file on the internet