Bowhill Primary School Curriculum Statement Computing

Computing Core Concepts		
Computer Science	Digital Safety	Information Technology
		

Why we teach Computing	At Bowhill Primary School, we recognise the paramount importance of being computer literate in our rapidly changing world. With technology evolving at an unprecedented pace, proficiency in computing is no longer merely advantageous but essential for success in virtually every aspect of modern life. Through the Teach Computing scheme and SWGfL online safety units, we prioritise equipping our students with the necessary skills and knowledge to navigate this digital landscape with confidence, safety and competence. From understanding the fundamentals of coding to honing critical thinking and problem-solving abilities, our curriculum emphasises the development of skills that are not only relevant today but also adaptable to the challenges of tomorrow. We believe that by fostering computer literacy, we are empowering our children to not only participate actively in the digital revolution but also to shape its trajectory, ensuring that they are well-prepared to thrive in the dynamic and interconnected world of the 21st century.
How we teach Computing	At Bowhill Primary School, we take a dynamic and interactive approach to teaching computing, drawing upon the rich resources and structured curriculum provided by Teach Computing. Our teaching methodology is designed to foster hands-on learning experiences that engage children in real-world problem-solving and creative exploration. Through a blend of practical activities, coding exercises, and collaborative projects, we prioritise the development of computational thinking skills alongside technical proficiency. Our curriculum, informed by the principles of Teach Computing, promotes a progression from foundational concepts to more advanced topics, ensuring that children build a solid understanding of computing principles while also being challenged to apply their knowledge in novel contexts. By integrating innovative teaching strategies and leveraging cutting-edge resources, we aim to cultivate a vibrant learning environment where our children feel empowered to explore, experiment, and excel in the exciting field of computing.
What we want children to learn	At Bowhill Primary School, our goal is to ensure that children in EYFS, Key Stage 1 and Key Stage 2 develop a strong foundation in computing that prepares them for the digital challenges of the future. Through the Teach Computing curriculum, we aim to instil a broad range of skills and knowledge – sitting centrally to this is a solid understanding of how to stay safe online. Through purposeful play and exploration, our children in EYFS will be introduced to basic concepts of computing. Technology will form part of continuous provision following direct instruction from staff. In KS1, we focus on introducing fundamental concepts such as algorithms, programming, and digital literacy. We want our young learners to understand the basics of coding through hands-on activities and to develop critical thinking skills as they solve problems in a digital context. As they progress into KS2, our emphasis shifts towards more advanced topics such as data representation, computer networks, and cybersecurity. We want children to explore the inner workings of computers, understand how data is stored and transmitted, and become responsible digital citizens who can navigate the online world safely and ethically. By providing a comprehensive computing education that spans the primary stage, we aim to equip our students with the skills and knowledge they need to thrive in an increasingly digital society.

EYFS	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Our curriculum intent for computing in the Early Years Foundation Stage is to foster a holistic approach to learning that nurtures children's curiosity, creativity, and digital literacy from the very beginning of their educational journey. Aligned with the Early Learning Goals, our computing curriculum in EYFS aims to support children in developing a strong foundation in understanding the world around them through technology. Through purposeful play and exploration, we aim to introduce our youngest children to basic concepts of computing such as cause and effect, sequencing, and pattern recognition. We provide opportunities for children to engage with age-appropriate digital tools and devices, encouraging them to develop their fine motor skills, spatial awareness, and problem-solving abilities. Most importantly, we prioritise fostering positive attitudes towards technology, promoting responsible and safe use of digital resources in line with the principles of online safety. By integrating computing into the EYFS curriculum, we seek to empower our children to become confident, curious, and capable learners who are well-prepared to navigate the digital world with confidence and competence as they progress through their educational journey.					

KS1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Aims Year 1	In Year 1, children will continue to build upon their foundational understanding of computing, with a focus on developing key skills and concepts outlined in the curriculum. Through engaging activities and interactive lessons, children will explore fundamental computational thinking skills such as sequencing, debugging, and problem-solving. They will begin to apply these skills in basic programming tasks, learning how to create and execute simple algorithms using visual programming languages. Additionally, children will develop their understanding of digital literacy, learning how to navigate digital environments safely and responsibly. They will explore concepts such as data representation, understanding how information is stored and communicated digitally. Furthermore, students will have opportunities to explore creative uses of technology, including digital art and multimedia projects, fostering their creativity and digital fluency.					
Year 1	**Computing Systems and Networks: Technology around us**	**Online Safety: Privacy and Security**	**Data and Information: Grouping Data**	**Programming A: Moving a Robot**	**Creating Media: Digital Writing**	**Programming B: Programming Animations**
Aims Year 2	In Year 2, children continue to build upon the foundational concepts introduced in Year 1, further developing their computational thinking skills and digital literacy. Throughout the year, children will engage in a variety of hands-on activities and interactive experiences designed to deepen their understanding of computing concepts. They will expand their knowledge of programming by learning more advanced coding techniques and exploring concepts such as loops and conditionals. Through practical tasks and projects, students will apply their programming skills to solve problems and create digital artifacts. Additionally, Year 2 students will deepen their understanding of digital citizenship, learning about the importance of online safety, privacy, and responsible use of technology. They will explore concepts such as cyberbullying awareness and digital footprint management, equipping them with the knowledge and skills to navigate the online world safely and ethically. Furthermore, children will have opportunities to explore creative uses of technology, including digital storytelling, animation, and multimedia production, fostering their creativity and digital fluency.					
Year 2	**Data and Information (Pictograms)**	**Online-safety sequence SWGfL digital literacy and Citizenship**	**Creating Media (digital photography)**	**Programming A (robot algorithms)**	**Programming B (programming quizzes)**	**Computing Systems and networks (IT around us)**

LKS2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Aims	In Years 3 and 4, through a structured and engaging curriculum, children explore a wide range of computing concepts and applications. They further develop their computational thinking skills, learning advanced programming concepts such as variables, functions, and algorithms. Practical coding tasks and projects allow children to apply these skills in real-world contexts, fostering problem-solving abilities and creativity. Children deepen their understanding of digital literacy, exploring topics such as data representation, internet safety, and ethical considerations in technology use. They learn to critically evaluate digital information and develop strategies for safe and responsible online behaviour. Year 3 and 4 also have opportunities to explore more advanced aspects of technology, including robotics, physical computing, and game design. Through a combination of hands-on activities, collaborative projects, and creative exploration.					
Year 3/4 YEAR A	**Computing Systems and networks (connecting computers)**	**Online-safety sequence SWGfL digital literacy and Citizenship**		**Creating Media (stop frame animation)**	**Programming A (sequencing sound)**	**Creating Media (desktop publishing)**
Year 3/4 YEAR B	**Computing Systems and networks (connecting computers)**	**Online Safety sequence**		**Data and Information (data logging)**	**Programming A (repetition in shapes)**	**Programming B (repetition in games)**

UKS2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Aims	In Years 5 and 6, children build upon the foundations laid in earlier years and engage in more complex programming tasks, mastering advanced coding concepts such as loops, conditionals, and data structures. They apply these skills to solve increasingly challenging problems and develop innovative solutions through coding projects and challenges. They will deepen their understanding of computational thinking, exploring topics such as abstraction, decomposition, and algorithmic design. Through practical application and critical analysis, they develop a systematic approach to problem-solving that is transferable across various domains. Additionally, children expand their digital literacy skills, exploring topics such as cybersecurity, data privacy, and the societal impact of technology. They learn to critically evaluate digital information, discerning fact from fiction, and develop strategies for responsible and ethical technology use.					
Year 5/6 YEAR A	**Computing Systems and networks (systems and searching)**	**Online Safety Sequence**		**Creating Media (vector graphics)**	**Programming A (selection in physical computing)**	**Programming B (selection in quizes)**
Year 5/6 YEAR B	**Computing Systems and networks: Communication and Collaboration**	**Online Safety Sequence**		**Creating Media: Web Page Creation**	**Creating Media 3D modelling**	**Data and Information: Spreadsheets**

EYFS – All Units		
Early Learning Goals	Understanding the World: Children explore and understand the world around them, including technology. It encompasses experiences with various forms of technology, such as computers, tablets, and interactive toys. Through these experiences, children begin to develop an understanding of how technology works and its role in their lives. Communication and Language: Children engage in discussions about technology, express their ideas and experiences with digital devices, and listen to instructions related to technology use. Physical Development: Computing activities support physical development as children manipulate devices, use touchscreens, and engage in fine motor activities such as clicking and dragging objects on a screen. These activities help to develop hand-eye coordination, dexterity, and control. Expressive Arts and Design: Children engage in activities such as digital art, multimedia creation, or storytelling using technology tools. This goal encourages children to explore their creativity through various digital platforms and applications. Personal, Social, and Emotional Development: Children learn about online safety and responsible digital citizenship	
Planning and Resources	**Planning**	**Resources**

Key stage 1: Pupils should be taught to:

1.1.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
1.2	Create and debug simple programs
1.3	Use logical reasoning to predict the behaviour of simple programs
1.4	Use technology purposefully to create, organise, store, manipulate and retrieve digital content
1.5	Recognise common uses of information technology beyond school
1.6	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.

Year 1

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing systems and networks – Technology around us (1.4,1.5,1.6) • To identify technology • To identify a computer and its main parts (L2: using technology) • To use a mouse in different ways • To use a keyboard to type on a computer • To use the keyboard to edit text **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-technology-around-us	**Online-safety sequence (1.6) Privacy and security** • Explain how passwords are used to protect information, accounts and devices. • Recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). • Explain why it is important to always ask a trusted adult before sharing any personal information online **Online relationships**	**Data and information – Grouping data (1.4, 1.6)** • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data	**Programming A – Moving a robot (1.1,1.2,1.3,1.5)** • To explain what a given command will do (L1: buttons) • To act out a given word • To combine forwards and backwards commands to make a sequence (L3: forwards and backwards) • To combine four direction commands to make sequences (L4: four directions) • To plan a simple program (L5: getting there) • To find more than one	**Creating media – Digital writing (1.4, 1.6)** • 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 **Guidance Resources:** https://teachcomputing.o	**Programming B – Programming animations (1.1,1.2,1.3)** • 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 **Guidance Resources:** https://teachcomputing.o

Key resource to be familiar with: guidance documents suggest paintz.app accessible as a google chromebook app for all https://paintz.app/	• I can give examples of when I should ask permission to do something online and explain why this is important. • I can explain why it is important to be considerate and kind to people online and to respect their choices **Managing online information** • I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke • I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. **Guidance Resources:** https://projectevolve.co.uk/toolkit/resources/years/	**Key resource to be familiar with:** Google slides and physical 2D shapes	solution to a problem (L6: routes) **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot **Key resource to be familiar with:** Bee-bot floor robots	rg/curriculum/key-stage-1/creating-media-digital-writing **Key resource to be familiar with:** Google Docs	rg/curriculum/key-stage-1/programming-b-introduction-to-animation **Key resource to be familiar with:** ScratchJr

Key stage 1: Pupils should be taught to:

1.1.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
1.2	Create and debug simple programs
1.3	Use logical reasoning to predict the behaviour of simple programs
1.4	Use technology purposefully to create, organise, store, manipulate and retrieve digital content
1.5	Recognise common uses of information technology beyond school
1.6	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.

Year 2

Autumn 1	Autumn 2	Spring 1	Spring 2 and Summer 1	Summer 2
Data and information – Pictograms (1.4, 1.6) • 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 **Guidance Resources:**	**Online-safety sequence SWGfL digital literacy and Citizenship (1.6)** **Online Relationships:** • I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country). • I can explain who I should ask before sharing things about myself or others online **Online Bullying:**	**Creating media – Digital photography (1.4, 1.5, 1.6)** • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-	**Programming A – Robot algorithms (1.2, 1.2 ,1.3, 1.4)** • To describe a series of instructions as a sequence (L1: giving instructions) • To explain what happens when we change the order of instructions (L2: same but different) • To use logical reasoning to predict the outcome of a program (series of commands) (L3: making predictions) • To explain that programming projects can have code and artwork (L4: mats and routes) • To design an algorithm (L5: algorithm design) • To create and debug a program that I have written (L6: debugging) **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms **Key resource to be familiar with:** Bee-bots **Programming B – Programming Quizzes (1.1,1.2,1.3,1.4)** • To explain that a sequence of commands has a	**Computing systems and networks – IT around us (1.4, 1.5, 1.6)** • 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

https://teachcomputing.org/curriculum/key-stage-1/data-and-information-pictograms **Key resource to be familiar with:** https://www.j2e.com/jit5#pictogram	• I can explain what bullying is, how people may bully others and how bullying can make someone feel. • I can talk about how anyone experiencing bullying can get help. • Health, Wellbeing and lifestyle: • I can explain simple guidance for using technology in different environments and settings • I can say how those rules / guides can help anyone accessing online technologies **Guidance Resources:** https://projectevolve.co.uk/toolkit/resources/years/	https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography **Key resource to be familiar with:** https://pixlr.com/x/ is suggested. Ipads could be used to take photos.	start • To explain that a sequence of commands has an outcome • create a program using a given design • To change a given design • To create a program using my own design • To decide how my project can be improved **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes **Key resource to be familiar with:** Bee-bots ScratchJr	technology **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-it-around-us

Key stage 2: Pupils should be taught to:

2.1	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
2.2	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
2.3	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
2.4	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
2.5	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
2.6	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
2.7	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 3/4 Year A

Autumn 2 and Spring 1	Spring 2	Summer 1	Summer 2
Online-safety sequence **SWGfL digital literacy and Citizenship (2.7)** **Privacy and Security** • Describe simple strategies for creating and keeping passwords private. • Give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult **Online Relationships**. • I can explain what it means to 'know someone' online and why this might be different from knowing someone offline. • I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted	**Creating media – Animation (2.6, 2.7)** • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/creating-media-	**Programming - (2.1, 2.2, 2.3, 2.6)** • To create a project from a task description • To change the appearance of my project • To recognise that a sequence of commands can have an order • To explain that a program has a start • To identify that commands have an outcome • To explore a new programming environment **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/programming-a-	**Creating media – Desktop publishing (2.5, 2.6)** 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 **Guidance Resources** https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing

with. **Health, Wellbeing and lifestyle:** • 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). **Guidance Resources** https://projectevolve.co.uk/toolkit/resources/years/	animation **Key resource to be familiar with:** Guidance suggests imotion ipad app but use stop motion animation app already installed	sequence-in-music **Key resource to be familiar with:** Scatch	**Key resource to be familiar with:** Guidance doc suggests Adobe Spark but use Google slides and their templates and adjust sequence to suit - using it to create a purposeful topic outcome

Year 3/4 Year B

Autumn 1	Autumn 2 and Spring 1	Spring 2	Summer 1	Summer 2
Computing systems and networks – The Internet (2.4, 2.5, 2.6, 2.7) • To describe how networks physically connect to other networks • To recognise how networked devices make up the internet • To outline how websites can be shared via the World Wide Web • To describe how content can be added and accessed on the World Wide Web • To recognise how the content of the WWW is created by people **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet **Key resource to be familiar with:** Chrome music lab used at one point	Online-safety sequence (2.7) **Online Reputation** • I can describe how to find out information about others by searching online. • I can explain ways that some of the information about anyone online could have been created, copied or shared by others. **Self-Image and Identity** • I can explain how my online identity can be different to my offline identity. • I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. • I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this. **Managing Online Information** • 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 can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. • I can explain what is meant by fake news **Guidance Resources** https://projectevolve.co.uk/toolkit/resources/years/	Data and information: Data Logging (2.6) • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging **Key resource to be familiar with:** microbits	Programming A – Repetition in shapes (2.1, 2.2, 2.3, 2.6) • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes **Key resource to be familiar with:** Turtle Academy - https://turtleacademy.com/	Programming B (repetition in games) (2.6, 2.7) • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games **Key resource to be familiar with:** Scratch

Key stage 2: Pupils should be taught to:

2.1	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
2.2	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
2.3	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
2.4	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
2.5	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
2.6	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
2.7	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 5/6 Year A

Autumn 1	Autumn 2 and Spring 1	Spring 2	Summer 1	Summer 2
Computing systems and networks – Systems and searching **(2.1, 2.2, 2.4, 2.6, 2.7)** • To explain that computers can be connected together to form systems • To recognise the role of computer systems in our lives • To recognise how information is transferred over the internet • To experiment with search engines • To explain how search	**Online safety sequence – (2.7)** **Privacy and Security** • I can explain what a strong password is and demonstrate how to create one. **Online Relationships** • 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 it is is not my / our fault • I can explain how someone can get help if they are having problems and identify when to tell a trusted adult. **Online Bullying** • I can recognise online bullying can be different to bullying in the physical	**Creating media – Vector drawing** **(2.1, 2.2, 2.3, 2.6)** • 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 my vector drawings	**Programming: Selection in Physical Computing** **(2.1, 2.2, 2.3, 2.6)** • To control a simple circuit connected to a computer • To write a program that includes count-controlled loops • 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	**Programming: Selection in Quizes** **(2.6)** • 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

results are ranked • To recognise why the order of results is important, and to whom **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-sharing-information **Key resource to be familiar with:** Variety of search engines	world and can describe some of those differences. • I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. • I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. **Self-image and identity** • I can demonstrate how to make responsible choices about having an online identity, depending on context. **Guidance Resources:** https://projectevolve.co.uk/toolkit/resources/years/	**Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/creating-media-vector-drawing **Key resource to be familiar with:** Google Drawing	• To explain that a loop can stop when a condition is met • To create a program that controls a physical computing project **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/programming-a-selection-in-physical-computing **Key resource to be familiar with:** Crumble	**Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/programming-b-selection-in-quizzes **Key resource to be familiar with:** Scratch

Year 5/6 Year B

Autumn 1	Autumn 2 and Spring 1	Spring 2	Summer 1	Summer 2
Computing Systems and Networks - communication and collaboration (2.1, 2.4, 2.5, 2.6, 2.7) • 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 online • To recognise how we communicate using technology **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication **Key resource to be familiar with:** Google Slides	Online safety sequence (2.7) **Online Relationships** • I can explain how sharing something online may have an impact either positively or negatively • I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not. • I can explain that taking or sharing inappropriate images of someone even if they say it is okay, may have an impact for the sharer and others; **Online Reputation** • I can explain the ways in which anyone can develop a positive online reputation • I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity. **Self-image and identity** • 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. **Health, wellbeing and lifestyle** • I can recognise and can discuss the pressures that technology can place on someone • I can assess and act on different strategies to limit the impact of technology on health **Guidance Resources:** https://projectevolve.co.uk/toolkit/resources/years/	Creating media – Web page creation (2.5, 2.6, 2.7) • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation **Key resource to be familiar with:** Google SItes	Creating media – 3D Modelling (2.6, 2.7) • 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 **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/creating-media-3d-modelling **Key resource to be familiar with:** TinkerCad	Data and information – Spreadsheets (2.6) • 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 by converting them into a graph **Guidance Resources:** https://teachcomputing.org/curriculum/key-stage-2/data-and-information-spreadsheets **Key resource to be familiar with:** Google Sheets

Glossary of terms:

Term	Key Stage	Definition
Algorithm	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
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 network	2	A group of interconnected computing devices
Computer system	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	1&2	A letter, word, number etc. that has been collected for a purpose, but **stored** without context

Term	Key Stage	Definition
Data set	2	A collection of related **data**
Debugging	1&2	The process of finding and correcting errors in a **program**
Decompose	2	To break down a task into smaller, more achievable steps
Digital device	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	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**)
Information	1&2	**Data** put into a context that provides meaning
Input	2	**Data** that is sent to a **program** to be **processed**

Term	Key Stage	Definition
Input device	2	A piece of **hardware** used to control, or send **data** to, a **computer**
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	2	SEE: Computer network
Object	1	Something that can be named and has other **attributes** (**properties**), which can be labelled
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**

Term	Key Stage	Definition
Program	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	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

Term	Key Stage	Definition
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**
WiFi	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)	2	A service provided via **the internet** that allows access to **web pages** and other shared files