Computing Year 4

Unit of work	Build Your Own Computer	Introducing Networks	Events, Actions and Sequences	Online Safety	Video Editing
Link to Programme of study	**Computers, networks and the WWW**	**Computers, networks and the WWW**	**Computer science**	**Digital Literacy – inc. online safety**	**Digital Literacy – inc. online safety**
Composite knowledge	Understand that computers are machines that follow instructions Understand the key hardware components that make up computer systems Write and debug programs that accomplish specific goals	Understand that computers are machines that follow instructions Understand computer networks as computers connected together that allow computers to communicate and users to collaborate	Design, write and debug sequences of instructions to create specific outcomes Use and recognise sequence and repetition within programs Use logical reasoning to predict the outcome of simple programs and detect and correct errors Write algorithms to create a solution to a problem and implement them in code.	use technology safely, respectfully, and responsibly recognise acceptable/unacceptable online behaviour identify a range of ways to report concerns about content and contact	use a variety of software to design and create a range of outcomes Use a range of digital devices for capturing video Use software to edit and manipulate video
Intentional knowledge they need to understand (Component knowledge)	Can assemble a raspberry Pi computer and identify the different parts Can explain the function of the key components inside a computer Recognise that the Operating System files are what makes the computer work Use code blocks to create sequences of code Can take a role as part of a team (paired Programming) Read and follow tutorials to create specific outcomes	That a network is created by joining computers together Users can collaborate together because the computers are joined together Experience of joining computers together using cables and switches Use decomposition to help break down big challenges	Write algorithms and implement them as programs using Scratch blocks Use and recognise a range of events that can be used to trigger programs Look for patterns in sequences and use repeat loops to shorten them Break challenges into smaller steps Use sequences to create a range of animations Create digital art work using a paint editor Create more complex sequences of instructions which link together create an increasingly complex programs incorporating linked sequences, animations and repeat loops	Identify signs of manipulative, pressurising or threatening behaviour online Respond safely if they think someone is trying to manipulate, pressure or threaten them Understand their rights online, and respect those of others Take measures to control their privacy and digital footprint Get help from an appropriate source if they need it.	Plan and storyboard a video Use Digital Cameras to capture video clips Use software to view, edit, arrange and combine video clips Use software to add text titles and sound to video files Evaluate finished work and suggest ways it could be developed further

National Curriculum KS12 (skills)	**Key stage 2** **Pupils should be taught to:** • 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.				
Vocabulary	Operating System, Files, usb, hdmi, Raspberry PI, Driver, Navigator	Network, Network cable, Switch, IP Address	Event, sequence, repeat loop, animation,	Personal information, trusted adult, manipulation, Adobe Express	Digital video camera, Clip, storyboard, Adobe Express, trim
Links to prior knowledge	Year 3 what's inside your computer Programming units of work in Year 1 , 2 and 3	Year 4 Build Your Own Computer Year 3 What's inside your computer	Year 3: Programming Sequences KS1: Programming units Year 1 – Using Paint	Online Safety units in Years 1 - 3	Year 4: Online Safety – using Adobe Express Year 2: stop frame animation
Key knowledge for assessment	Can assemble the parts of a raspberry pi computer identify the files and operating system as the most important part of the computer Explain the function of the key components inside a computer Work as a member of a team Write, test and debug sequences of code to create specific outcomes	Recognise a network as computers joined together Can describe one way to make a network Collaborated as a member of a group via a network to complete a group challenge	Can write an algorithm to express their intentions Can write a simple sequence of code to achieve a specific outcome Can explain what their code does and find and correct errors Can create more complex programs using animation, repetition and linked sequences	Understands how to use technology safely, respectfully, and responsibly Can recognise acceptable/unacceptable online behaviour Knows a range of ways to report concerns about content and contact	Can plan a short video using a storyboard Can use a digital camera to capture video clips Uses software to arrange video clips in order Use software to edit and manipulate video clips Evaluate finished artifacts and identify ways they could be improved

Cross Curricular Links	Art		History, Dance, Music	PSHCE	
Oracy & Outdoor Learning Links	Partner talk Working in pairs	Group collaboration, explaining and sharing ideas			