Computing Year 5

Unit of work	Build Your Own Computer	Introducing Networks	Introducing Selection and the Micro:bit	Variables in Scratch	Selection in Scratch
Link to Programme of study	**Computers, networks and the WWW**	**Computers, networks and the WWW**	**Computer Science**	**Computer Science**	**Computer Science**
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	Recognise and use sequence, repetition and Selection in a range of programs Work with various forms of input and output Design, write and test programs which achieve specific outcomes Use logical reasoning to explain what will happen when code is run	Recognise and use variables in a range of programs Design, write and test programs which achieve specific outcomes Use logical reasoning to explain what will happen when code is run	Recognise and use Selection in a range of programs Design, write and test programs which achieve specific outcomes Use logical reasoning to explain what will happen when code is run
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)	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 Begin to recognise the internet as joined computer networks Use decomposition to help break down big challenges	Write programs in Scratch using the code blocks and run them on the Micro:bit Recognise how selection is used in some programs Read code to identify what will happen when it is run Use selection to create if statements Write code which includes conditions	Recognise a variable as a space in a program to store data Edit and use variables in a variety of different ways Recognise different ways variables can be used to affect their programs Be able to read code and predict what it will achieve	Recognise different types of selection in programs Identify the conditions which control the flow of a program Can plan, write and test programs which include selection Use their understanding of coding in Scratch to logically predict what code will do before it is run

	Read and follow tutorials to create specific outcomes		Use forever loops to make the program continuously check if a condition is met Use programming knowledge to develop programs further by including their own ideas		
National Curriculum KS2 (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, Hard drive, SD card, Motherboard, CPU, RAM Input, Output, USB, HDMI, Raspberry PI, Driver, Navigator	Operating System, Files, SD card, HDMI, Network, Network cable, Switch, Collaborate	Micro:bit, Sequence, Selection, Repeat, forever, Condition, LED, Input, Output, flow diagram	Variable, Sequence, Algorithm, repeat, timer, score, Code,	Variable, Sequence, Algorithm, Code, condition, if, if … else …
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 4 – Sequences of instructions Year 3 – input and output	Year 5 – Introducing Selection and the Micro:Bit Year 4 – sequences of instructions	Year 5 - Variables Year 5 – Introducing Selection and the Micro:Bit Year 4 – sequences of instructions
Key knowledge for assessment	Can assemble the parts of a raspberry pi and identify the files and operating system as the most important part of the computer Explain the function of the key components inside a computer	Recognise a network as computers joined together Can describe one way to make a network	Can write and run programs on a Micro:bit Can explain how selection is used in their program	Can explain what a variable is and where it might be used in programs Can design and create programs which make use of variables e.g. as a score	Can recognise and describe how selection is used in programs to control events and outcomes Can plan, write and test programs to achieve a specified outcome Can create increasing more complex programs which draw on

	Work as a member of a team Write, test and debug sequences of code to create specific outcomes	Collaborated as a member of a group via a network to complete a group challenge	Can recognise and use conditions to control what happens in their program Can plan, write and test code to achieve specific outcomes	Has used variables to control the flow of a program	the concepts children have learnt so far: sequence, selection, conditions and repetition
Cross Curricular Links	Art				
Oracy & Outdoor Learning Links	Partner talk Working in pairs	Group collaboration, explaining and sharing ideas			