STAGE 2 COMPUTING PROGRESSION 2023 - 2024

COMPUTER SCIENCE	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 sequence, selection, and repetition in programs; work with variables and various forms of input and output
INFORMATION TECHNOLOGY	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
DIGITAL LITERACY	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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
DIGITAL SAFETY	use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		

COMPUTER SCIENCE	INFORMATION TECHNOLOGY	DIGITAL LITERACY
Using logical thinking to explore more complex software; predicting, testing and explaining what it does. Incorporating loops to make code more efficient. Continuing existing code. Creating algorithms for a specific purpose. Coding a simple game. Using abstraction and pattern recognition to modify code. Incorporating variables to make code more efficient. Developing their programming as they work. Confidently using loops in their programming. Using a more systematic approach to debugging code, justifying what is wrong and how it can be corrected. Writing code to create a desired effect. Using a range of programming commands. Using repetition within a program. Debugging quickly and effectively to make a program more efficient. Changing a program to personalise it.	Understanding the role of the key components of a network. Identifying the key components within a network, including whether they are wired or wireless. Understanding that websites and videos are files that are shared from one computer to another. Learning about the role of packets. Understanding how networks work and their purpose. Recognising links between networks and the internet. Learning how data is transferred. Recognising that computers transfer data in binary and understanding simple binary addition.	Using logical thinking to explore software independently, iterating ideas and testing continuously. Using search and word processing skills to create a presentation. Use online software for documents, presentations, forms and spreadsheets. Using software to work collaboratively with others. Understanding why some results come before others when searching. Understanding that information found by searching the internet is not all grounded in fact. Searching the internet for data.

Evaluating code to understand its purpose. Predicting code and adapting it to a chosen purpose.	Learning that messages can be sent by binary code, reading binary up to eight characters and carrying out binary calculations.	Developing searching skills to help find relevant information on the internet. Understanding how data is collected in remote or dangerous places. Understanding how data might be used to tell us about a location.

CPD Steps: KS1 & 2 Key Vocabulary

algorithm program debugging
sequence variable procedure
programming language
function computational logic
software hardware operating
system abstraction

CPD Steps: The Computing Strands

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.

Computer Science

Information Technology

Digital Literacy

E-Safety