

	Autumn Term	Spring Term	Summer Term
Text and Assessment	<i>Online safety Hardware and software Networks</i>	Algorithms Boolean logic Binary	Presenting information Python Scratch
Key Knowledge	<ul style="list-style-type: none"> Understand a range of ways to use technology safely, respectfully, responsibly and securely, including promoting their online identity and privacy, recognise inappropriate content, contact and conduct, and know how to report concerns. Understand the hardware components that make up computer systems and how they communicate with one another and with other systems understand how instructions are stored and executed within a computer system understand how data of various types including text sound and pictures can be represented and manipulated digitally in the form of binary digits 	<ul style="list-style-type: none"> Design use and evaluate computational abstractions and model of state and behaviour of real-world problems and physical systems Understand several key algorithms that reflect computational thinking for example ones for sorting and searching use logical reasoning to compare the utility of alternative algorithms for the same problem Understand simple boolean logic for example 'and' 'or' and 'not' and some of its uses in circuits and programming understands how numbers can be represented in binary and be able to carry out simple operations on binary numbers binary addition and conversion between binary and decimal 	<ul style="list-style-type: none"> Use two or more programming languages at least one of which is textual to solve a variety of computational problems make appropriate use of data structures for example lists tables or arrays design undeveloped modular programmes that use procedures or functions Undertake creative product at involve selecting using a combining multiple application preferably across a range of devices to achieve challenging goals included collecting and analysing beta and meeting the need of known users Create viewed revise and re purpose digital artefact forgiven audience within attentionto trustworthiness design and usability
Vocabulary	Stranger upload visibility copyright default online post privacy prosecute public domain online shopping online banking online auction malwa spam virus driver server supercomputer Bluetooth network cloud services sensors wearable technologies Wi-Fi case fan graphics card hard drive heat sink fan motherboard processor sound card boss capaciti external internal logical physical off the shelf tailored bespoke	algorithm pseudo code flow chart condition selection loop repetition pass notation decomposition abstraction boolean logic logic gates truth tables binary decimal Deanery base number hexadecimal	storyboard script fit for purpose target audience peer feedback testing parenthesis static dynamic compiler user interface data structure debugging condition integer nesting alphanumeric constant variable bodmass return value parameter subroutine

Key stage one

Recognise common uses of information technology beyond school use technology safely and respectfully keeping personal information private identified where to go for help and support when they have concerns about content or contact on the Internet or other online technologies

key stage 2

Understand computer networks including the Internet how they can provide multiple services such as worldwide web and the opportunities they offer for communication and collaboration use technology safely respectfully and responsibly recognise acceptable and unacceptable behaviour identify a range of ways to report concerns about content and contact

Understand what algorithms are, how they are implemented as programmes on digital services and that programmes execute it following precise and unambiguous instructions

You need logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programmed

Create and people simple programmes use logical reasoning to predict the behaviour of simple programmes use technology purposefully to create organise store manipulate and retrieve digital content

Design write and debug programmes accomplish specific goals including controlling or simulating physical systems solve problems by decomposing them into smaller parts new sequence selection and repetition in programmes work with variables and various forms of inputs and outputs you search technologies effectively appreciate how results are selected and ranked and be discerning in evaluating digital content Select news and combine a variety of software including Internet services on a range of digital devices to design and create a range of programmes systems and content accomplished given bold including collecting analysing evaluating and presenting data and information

Key stage three national curriculum

- Design use and evaluate computational abstractions and model the state and behaviour of real-world problems and physical systems
- Understand several key algorithms that reflect computational thinking for example ones for sorting and searching use logical reasoning to compare the utility of alternative algorithms for the same problem
- use two or more programming languages at least one of which is textual to solve a variety of computational problems make appropriate use of data structures for example lists tables or arrays design and develop modular programmes use procedures or functions understand simple boolean logic for example and or and not and some of its uses in circuits and programming understand how numbers can be represented in binary and be able to carry out simple operations on binary numbers for example addition and conversion between binary and decimal
- Understand simple boolean logic for example and or not and some of its uses in circuits and programming understand how numbers can be represented in binary and be able to carry out simple operation on binary numbers for example addition and conversion between binary and secondary
- understand the hardware and software component and make up computer systems and how they communicate with one another and with other systems
- understand how instructions are stored and executed within a computer system understand how data of various sites including text sound and pictures can be represented and manipulated digitally in the form of binary digits
- undertake creative projects that involved selecting using and combining multiple applications preferably across a range of devices to achieve challenging goals including collecting and analysing data and meeting the needs of known users
- create reuse revise and re purpose digital artefact for given audience with attention to trustworthiness design and usability
- understand a range of ways to use technology safely respectfully responsibly and securely including protecting their online identity and privacy recognise inappropriate content contact and conduct and know how to report any concerns