Understanding and Creating Algorithms Progression

Y1	Y2	Y3	Y4	Y5	Y6
Know that instructions, and sequences of instructions, control devices and begin to understand that order and accuracy are important.	Plan, construct and record a simple sequence of instructions to control a device. Understand why a routine did not perform as expected. Review and modify their routine to enable a successful outcome. Understand the importance of accuracy and precision.	Understand that sequences can be repeated to work more efficiently. Be aware that things in the real world are controlled by input devices. Be confident in explaining to others the reason why a sequence worked or had to be modified.	Understand what an input and output is in computing terms. Understand simple control principles and processes. Begin to apply these logically to control devices. Know that when creating sequences to control devices, accuracy is essential to a successful operation. Understand and use simple sensors within their programming. Understand that inputs and outputs impact on operational functionality.	Use variables and understand their impact on input devices. Using their knowledge and understanding, predict the outputs of specific inputs. Create, design, test and de-bug a single set of instructions using sensors incorporating single variables. Be confident in explaining their program and what is needed to refine and improve.	Create programs to meet a given brief. Create programs which have a number of separate sub routines, and which respond and interact depending upon inputs and outputs. Use a number of variables to control more complex sequences to solve a given brief.

Digital Content and the Internet Progression

KS1 – Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

KS2 -.Use search engines effectively. Appreciate how results are selected and ranked and be discerning in evaluating digital content.

Y1	Y2	Y3	Y4	Y5	Y6
Covers: Classification by different criteria. Sorting by single and multiple criteria. Representation of data graphically Electronic data	Covers: Remote and local storage of data Textual graphical and numeric data Saving and retrieving files with text, sound and graphical formats Simple use of the internet including simple searches	Covers: Searching local databases and online sites and understanding the need for accuracy. Writing and publishing class blogs. Within a "walled garden" or restricted list, using the internet to find information to support other class work.	Covers: Importance of accuracy and learning about keywords Checking and evaluating results Developing searches on two criteria. Knowledge of web page design and external links	Covers: Creating a database structure, collecting, entering, testing and correcting data Construction of search criteria through planning research needs Searching independently and responsibly Developing critical evaluation skills Using spreadsheets to model patterns and to use formula to carry out a range of mathematical functions.	Covers: Review and critical analysis of information from the internet and other sources. Database and spreadsheet creation to support other work Critical review of "fit for purpose" in relation to databases including the internet Keywords and their relevance to effective internet searches and the ranking of internet sites.

Understanding the Application of IT

Programme of Study

KS 1 - recognise common uses of information technology beyond school.

KS 2 - understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; the opportunities they offer for communication and collaboration; 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 to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Y1	Y2	Y3	Y4	Y5	Y6
Covers: Knowing about technology in the home, and school. .	Covers: Knowing that objects in the wider world are controlled by technology.	Covers: Communication with technology Storage and retrieval of electronic information Real time and virtual worlds	Covers: Communication and the internet Developing critical evaluation skills	Covers: Greater independent and autonomous usage. Increased selectiveness about identifying and using resources.	Covers: Technical infrastructure and architecture. Application of all skills learnt to deliver a specified product or outcome.

Online Safety and Appropriate Use

Programme of Study

KS 1 – Use technology safely, respectfully keeping personal information private; know where to go for help and support when they have concerns about material on the internet. KS2 – Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour, identify a range of ways to report concerns about content and contact.

Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
Covers: General principles of safety including the real and virtual worlds Privacy of personal information Permanency of information on internet Know how to deal with concerns	Covers: The use of passwords, security and electronic communication protocols. Appropriate actions to be taken regarding inappropriate content or usage. Awareness of the school's Acceptable Usage Policy and its sanctions Awareness of ownership of material and content Know how to deal with concerns and inappropriate contact Risks and benefits of content and contacts through online communication.	Covers: Password protocols Reporting Monitoring Acceptable Use Copyright permissions and protocols Responsible behaviours and bullying Knowing how to deal with concerns and inappropriate contacts.