Disciplinary Knowledge: Computing

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	**Technology around us** Develop understanding of technology and how it can help them.	**IT around us** Explore how IT benefits society in places such as shops, libraries, and hospitals.	**Connecting computers** Recognise computer networks that include network infrastructure devices like routers and switches.	**The internet** Explore the World Wide Web, to learn about who owns content and what they can access, add, and create.	**Sharing information** *Explain the input, output and process of a system*	**Communication** Complete shared projects online and evaluate different methods of communication.
Autumn 2	**Moving a robot** Identify what each command for the floor robot does and predict the outcome of a program,	**Robot algorithms** Design algorithms and then test those algorithms.	**Sequence in music** Explore the concept of sequencing in programming through Scratch and introduced to a selection of motion, sound, and event blocks.	**Photo editing** Understand how digital images can be changed and edited.	**Vector drawing** Learn to create vector drawings with shape and line tools which are grouped and layered together.	**Variables in games** Explore the concept of variables in programming through games in Scratch.
Spring 1	**Digital painting** Explore a range of creative tools and consider preferences when painting with or without digital devices.	**Making music** Make music with both percussion instruments and digital tools.	**Branching databases** Learn to use tools within a database to order and answer questions about data.	**Data logging** Learn how computers can use special input devices called sensors to monitor the environment.	**Selection in physical computing** Learn to use a microcontroller (Crumble controller) and learn how to connect and program components.	**3D modelling** Produce 3D models and learn to work in a 3D space, moving, resizing, and duplicating objects.
Spring 2	**Grouping data** Discover data and information using labels to put objects into groups.	**Pictograms** Learn the term 'attribute' and use this to help them organise data and present in a pictogram.	**Animation** Use a range of techniques to create a stop-frame animation using a digital device.	**Audio editing** Record audio themselves which will include editing their work and learn to add multiple tracks and open and save audio files.	**Selection in quizzes** Develop knowledge of 'selection' and use selection to control outcomes to design a quiz in response to a given task.	**Spreadsheets** Introduced to spreadsheets and the use of cells, formulas and data formatting.
Summer 1	**Introduction to animation** Understanding to on-screen programming through ScratchJr using sprites and backgrounds.	**Digital photography** Gain experience capturing, editing, and improving photos using digital devices.	**Events and actions** Explore the links between events and actions with a program.	**Repetition in shapes** Understand repetition and loops within programming.	**Video editing** Develop the skills of capturing, editing, and manipulating video.	**Sensing** Combine previous programming knowledge to build and test a micro:bit.
Summer 2	**Digital writing** Develop skills typing on a keyboard and begin using tools to change the look of their writing.	**Introduction to quizzes** Begin to understand that sequences of commands have an outcome and make predictions.	**Desktop publishing** Use desktop publishing software and consider careful choices of font size, colour and type to edit and improve documents.	**Repetition in games** Explore the concept of repetition in programming using the Scratch environment.	**Flat file databases** Learn what a branching database is and how to create one and understand what attributes are and how to use them to sort groups of objects.	**Webpage creation** Identify what makes a good web page and use this information to design and evaluate a website.