F-10 Scope and sequence overview

F-1	**Hardware and software** Students explore and carry out some key functions on digital systems to meet a purpose.	**Data is all around us** Represent data as symbols, numbers and pictures. Collect, sort and present data in a digital format.	**An introduction to algorithms** Explore algorithms through guided play, including hands-on and interactive learning experiences.	**Online safety** Explore what personal information is safe to share and ways to behave responsibly online.
Yr 2	**Changes in technology** Use the focus of changing technology to explore digital systems and their use.	**Exploring data** Represent data in different ways. Collect, sort and present data in digital formats.	**Pre-programming** Learn basic computational skills - working out steps and decisions to solve simple problems.	**Staying safe online** Learn about the importance of passwords, explore cyberbullying and computer security and use an online space to safely share ideas.
Yr 3	**Peripheral devices** Explore, sort and classify peripheral devices. Use peripheral devices for a particular task.	**Secret messages and codes** Explore ways to represent data using the context of secret messages and codes.	**Intro to programming** Follow the problem solving process to design and create a digital solution.	**Communicate ideas and information** Learn about information systems can be used by students and others in their community.
Yr 4	**Exploring input and output** Explore inputs and outputs using a circuit board, electronic kit or programmable board.	**Use data to solve problems** Use a meaningful context to collect and organise data to answer a question.	**Programing project** Develop an understanding of computer programming as a series of instructions.	**Apply protocols** Develop a school ICT agreement and collaborate with others to complete an online task, using agreed protocols.
Yr 5	**Data and information** Design and create digital information that incorporates a data visualisation eg. an infographic.	**Binary numbers** Examine the way that computers use whole numbers to represent data.	**Problem-solving processes** Design and create digital solution that uses a visual programming language.	**Digital citizenship** Apply protocols while interacting in a collaborative learning space or creating a blog or website.
Yr 6	**Connecting digital components** Examine digital systems that have internal and external components that perform different functions.	**Representing images using binary** Learn about pixels and the way computers store an image as an array of individual pixels.	**Creating a digital game** Use a visual programming language to create a digital game.	**Collaborative project** Collaborate with others to create a digital solution, using agreed protocols.
Yr 7	**Get connected** Discuss types of networks, simulate a network and discuss security requirements.	**Data and information** This sequence uses the context of meal planning to demonstrate a process to solve a problem; in this case, what meal to cook for teenagers with various needs.	**Creating an app or game** Use the context of apps and digital games development to learn text-based programming.	**Digital citizenship** As people connect to the internet in more social and interactive ways, it is important to carry out online relationships responsibly.
Yr 8	**Networks and performance** Develop a basic understanding of network performance and ways to connect wirelessly or by wired connections.	**Computers and binary** Examine the ways all computer data including text, images and sound is represented using binary.	**Robotics and embedded systems** Explore the way computer programming uses a collection of smaller programs – functions to solve problems.	**Collaborative project** Social media has enabled us to communicate and build our social networks as well as share our thoughts, however; with access to this technology comes some pitfalls.
Yr 9	**Connected via a network** Examine different types of networks, protocols and the role of software and hardware plays.	**Data-driven innovation** Examine the way 'big data' is being used on a large scale to inform decision making.	**Creating an app, game or website** A digital game can give students the opportunity to learn and refine their object-oriented programming (OOP) skills which is a requirement at years 9-10.	**Managing a group orject: Augmented Reality (AR)** Plan and manage a group project that uses an AR platform to create an AR experience in response to a problem.
Yr 10	**Data: controlled and secured** Explore how data can be secured through access controls, virus checking, and encryption.	**Organise, visualise and analyse** Use tools to organise data and make sense of complex data to identify patterns and trends.	**Robotics and embedded systems** Choose from a selection of four projects to explore programming and designing a digital solution to suit an identified need or solve a problem.	**Collaborative project** Students choose an issue that matters to them and, in collaborative teams, create a media plan and campaign and associated content.