Computing -purpose	A high quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.		
Computing Aims	The national curriculum for computing aims to ensure that all pupils: • Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • Are responsible, competent, confident and creative users of information and communication technology •		
EYFS Early Learning Goals	**Understanding the World ~ Technology:** • Children recognise that a range of technology is used in places such as homes and schools. • Children select and use technology for particular purposes.		
Subject content for Key Stage 1 Pupils should be taught to:	**Computer Science** *how computers and computer systems work and how they are designed and programmed*	**Information Technology** *the purposeful use of existing programs to develop products and solutions*	**Digital Literacy** *the skills, knowledge and understanding needed in order to participate fully and safely in an increasingly digital world*
	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • Create and debug simple programs • Use logical reasoning to predict the behaviour of simple programs	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• Recognise common uses of information technology beyond school • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies

PROGRESSION				
		EYFS	**Year 1**	**Year 2**
		Learning Objectives:		
Computer Science	Algorithms	Can understand and follow simple instructions. Begin to follow simple procedures.	Begin to understand what an algorithm is. Begin to write a simple set of instructions for a purpose using symbols.	Understands what an algorithm is and is able to express **simple linear (non-branching) algorithms as symbols.** Understands that computers need precise instructions. Demonstrates care and precision to avoid errors. Understands that algorithms are used on digital devices as programs. Designs simple algorithms using loops, and selection (as statements). Uses logical reasoning to predict outcomes. Detects and correct errors (debugging) in algorithms.
	Curriculum Coverage	On The Move – positional language (robot) and split pin toys Superheroes – Beebots/QR code hunt		
	Programming and Development	Uses a simple program on a computer or device. **Begins to write own programs/sequences.**	Knows that users can develop their own programs. Demonstrates this by creating simple programs e.g. on programmable robots. Executes, checks and changes programs. Understands that programs execute by following precise instructions.	Develops their own programs e.g. robots. Uses arithmetic operators, 'what if' statements and loops within programs. Uses logical reasoning to predict the behaviour of programs. Detect and corrects simple semantic errors i.e. debugging.
	Curriculum coverage	Superheroes – Beebots/QR code hunt		

Information Technology	Data and Data Representation	Begins to recognise different forms of data, including graphs, lists, web pages and tables. Begins to collect and interpret simple sets of data, for example: uses data to answer questions, e.g. favourite colour in class.	Recognises that digital content can be represented in many forms. Begin to distinguish between some of these forms and can explain the different ways that they communicate information. Organises, stores, edits and manipulates data in different digital formats.	Recognise that digital content can be represented in many forms. Distinguish between some of these forms and can explain the different ways that they communicate information. Begin to appreciate that data can be structures in tables to make it more useful. Organises, stores, edits and manipulates data in a range of digital formats.
	Curriculum coverage			
Digital Literacy	Communication and networks	Begins to understand how computers can be linked together. Begin to understand email and websites. Begins to obtain content from the world wide web using a web browser, under adult supervision and with support.	Obtains content from the world wide web using a web browser. Understands the importance of communicating safely and respectfully online, and the need for keeping personal information private. Knows what to do when concerned about content or being contacted.	Navigates the world wide web and can carry out simple web searches to collect digital content. Demonstrates use of computers safely and responsibly. Knows a range of ways to deal with concerns about content and contact when online.
	Curriculum coverage			
	Technology	Begins to know that information can be retrieved on computers. Uses drawing software to create a picture for a purpose. Knows some common uses of information technology beyond the classroom.	Uses software under supervision, to create, store and edit digital content using appropriate file and folder names. Understands that people interact with computers. Shares their use of technology in school. Knows common uses of information technology outside school. Talks about their work and makes changes to improve it.	Uses technology with increasing independence to purposefully organise digital content. **Shows awareness for the quality of digital content collected.** Uses software to manipulate and present digital content: data and information. Shares their experiences of technology in school and outside school. Talks about their work and makes improvements to solutions based on feedback received.
	Curriculum coverage	Paws, Claws, Feathers and Fins – 2paint picture		