Rationale: Pupils will be provided with a high-quality computing education that enables them to use computational thinking and creativity to understand and engage with an ever-changing technical world.		
Intent: To ensure children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. To ensure children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. For pupils to 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. For the children to become responsible, competent, confident and creative users of information and communication technology.	Implementation: Children will explore a range of devices, applications and online environments. Children will have sessions where skills and concepts are taught but will also have time to 'explore and discover' for themselves. As they progress through school, children will have opportunities to combine the use of devices, applications and environments when completing creative projects. Throughout all the experiences provided for the children, online-safety will be paramount. Children will use technology to support their learning across different curriculum areas.	Impact: Children will develop a love for technology. Children's confidence in Computing and their use of technology with increase. Children will make links to their uses of technology and the application of these in the real world. Children will be digitally literate and will be able to express their ideas and creativity through technology. Children will understand and apply the principles of computer science and use this to create and debug computer programs.

	Early Learning Goal	Y1		Y2		Y3	
Key concepts							
		Knowledge	skills	knowledge	skills	knowledge	skills
Coding	I can follow adult instruction to use a bee-bot or a simple remote-control toy.	I know that an algorithm is a simple set of instructions.	I can give commands one at a time to control direction and movement, including straight, forwards, backwards and turn.	I understand the need to test and debug a program.	I can create a computer program using simple algorithms. I can debug simple programs. I can use a repeat command.	I understand how a flow chart can be used to represent steps in an algorithm.	I can run, test and debug a programme. I can predict what will happen if I follow a given set of instructions. I can read and explain a flow chart.
Searching	I know that a computer can be used to find information.	I recognise age-appropriate websites.	I can use safe search engines to search safely.	I understand the terminology associated with searching.	I can identify the basic parts of a web search engine search page. I can use links to teacher selected websites to find information.	I know how to search the Internet and think critically about the results that are returned.	I can structure search queries to locate specific information. I can add websites to a favourites list.
Using technology	I can explore a range of age-appropriate technology. Bee bots	I know how to use technology to create digital content.		I know how to use technology to create, organise, store,		I know how to use and combine a variety of software (including internet services) to	

	Computers Micro phones Cameras Phones CD players			manipulate and retrieve digital content.		design and create content that accomplish given goals.	
Uses of Information Technology	N/A	I know what technology is.	I can identify different types of technology.	I know that technology can be used to communicate with other people.	I can send an email.	I understand the safety implications of sending and receiving emails.	I can send an attachment with an email.
Computer Networks and the internet.	I can use programs from desktop with adult support. Purple Mash 2 Simple		I can save my work on Purple Mash.		I can save my work into a folder on Purple Mash (the internet) and on the school network.	I understand how computer networks within the school and the internet can support my learning.	I can use the class Share Point.
Keeping safe online	N/A	I know what personal information is and the importance of keeping this private.	I can identify where to go for help and support when I have a concern. I can log on and off from a computer or online environment.	I understand why the teacher must approve my work before it is displayed.	I can share work using a display board. I can identify appropriate and inappropriate behaviour online.	I know some of the effects of playing inappropriate games.	I can create a secure password. I can keep myself safe online.
Linear themes							
Handling data	N/A	I know how to create a pictogram using data collected.		I understand that the information on pictograms cannot be used to answer more complicated questions.	I can use a binary tree (branching database) to answer questions. I can use the search tool to find information on a database.	I know how to use Yes / No questions to create a branching diagram.	I can create a graph with a given number of fields.
Spreadsheets				I know how to add amounts on a spreadsheet.	I can use the totalling tool on a spreadsheet.	I know how to enter data into a spreadsheet.	I can enter data into a spreadsheet. I can use more than / less than and equals tool in a spreadsheet.
Creating Pictures	I can use a program to paint a picture with adult support. 2 Simple	I know how to use 2Paint.	I can use a mouse to create a simple picture on 2Paint.	I know that a Paint program can be used to create pictures in the style of different artists.	I can use tools on a Paint program to create different effects. I can create a repeating pattern.		I can create, edit and improve artwork using a Paint program.
Sound	N/A			I understand that technology can be used to create music digitally.	I can use different sounds within a music program to create a tune. I can change the tempo and volume of my tune.		
Combining text and graphics	N/A	I understand that text and pictures can be combined.	I can draw pictures and write about them to create a simple story.	I understand that questions can take different formats in a quiz.	I can create a simple quiz using text and graphics.	I know how to add pictures to a word document.	I can use a typing program to improve my keyboard skills.

Presenting ideas	N/A			I understand that digital content can be presented in many forms.	I can combine media such as text, pictures and sound to present my ideas.		I can insert a range of different media into a power point presentation.
Simulations	N/A					I know that simulations can be real or imagined.	I can explore and evaluate a simulation.
Game Design	N/A	I know games can be created and played on a computer.	I can use the up and down key to move my character. I can change the background in a game.				

		Y4		Y5		Y6	
Key concepts							
		Knowledge	skills	knowledge	skills	knowledge	skills
Coding		I understand that backgrounds and objects can be combined to create scenes. I understand what a variable is in computer programming.	I can use logical thinking to solve a problem by breaking it down into smaller parts. I can use variables such as IF/ELSE statements. I can use Repeat Until.	I understand that computer games are created using coding.	I can select the relevant features of a situation to incorporate into a simulation by using decomposition and abstraction. I can use variables to control objects in a game.	I know about different game structures and how variables are changed.	I can use variables within a game to keep track of the properties of objects. I can adapt an existing text adventure to make it unique to my requirements.
Searching		I know the importance of considering the reliability of sources for information I find on the internet.	I can use strategies to improve results when searching online.	I understand I must search the Internet with a consideration for the reliability of the results of sources, to check validity and understand the impact of incorrect information.	I can select keywords and search techniques to find relevant information and increase reliability.	I understand that content on the internet may be subject to copyright.	I can use advance search functions on Google. I know how to cite my sources when using information found online.
Using technology		I know how to select, use and combine a variety of software on a range of digital devices to design and create a range of content that accomplish given goals, including collecting, evaluating and presenting data and information.		I know how to select, use and combine a variety of software on digital devices to design and create a range of programs, and content that accomplish given goals, including collecting, evaluating and presenting data and information.		I know how to select, use and combine a variety of software to create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	
Computer Networks and the internet.		I understand the difference between the internet and the world wide web.	I can upload and share my work using the class Share Point.	I understand how the online learning environments can be used for communication and collaboration.	I can use the class Share Point to collaborate with others.	I know about the school network. I know the differences between at least 2 different network types.	I can create my own Share Point and share content with my teacher and peers.

Keeping safe online		I know how our digital footprint can be used to commit identity theft. I know that malware is software designed to disrupt, damage or gain access to a computer.	I can give examples of things that I should not share on my digital footprint. I can reflect on my own online behaviour.	I know the SMART rules for keeping safe when online and can explain them to others. I know how to be a good citizen and friend online.	I can follow the SMART rules to stay safe. I can discuss scenarios involving risk online.	I know the risks of working online including, sharing location, secure websites, phishing and other email scams.	I can take steps to protect myself including protecting my digital footprint, where to go for help, smart rules and security software.
Linear themes							
Handling data				I know what a database field is. I understand how to word questions so that they can be answered effectively.	I can create my own database on a chosen topic. I can add records to my database. I can search a database to answer simple and more complex questions correctly.	I know how a database can be used in a 'real-life' context.	I can create a database to collect 'real-life' information. I can use my database to answer questions in a historical or geographical context.
Spreadsheets		I understand how spreadsheets can be used to help when budgeting.	I can format numbers on a spreadsheet. I can create simple formulae to automatically carry out calculations in a cell. I can create a line graph.	I understand how to use formulae in a spreadsheet.	I can use formulae to convert measurements and solve mathematical calculations such as area and perimeter. I can create simple formulae that use different variables.	I know how spreadsheets can be used in 'real life'.	I can use a spreadsheet to explore probability and solve problems. I can use a spreadsheet to input real-life data and interrogate it.
Creating Pictures		I understand how animations are created using frames.	I can use 2 Animate to create a simple animation.	I understand how different tools on a paint program can be used to create different effects.	I can choose the appropriate tool to create a chosen effect.		
Sound		I know the appropriate musical language to use to discuss a piece of music.	I can experiment with pitch, rhythm, and melody to create a piece of music.	I know different ways that audio can be recorded to be used on a computer.	I can collect audio from a variety of sources. I can use a digital device to record sounds and present audio.	I know that audio can be manipulated using appropriate software.	I can trim, arrange and edit audio levels to improve quality.
Combining text and graphics		I understand that the font size and type are tailored to the purpose of the text.	I can use text formatting to make a piece of writing fit for its audience and purpose.	I understand how to use a word processing package.	I can format text and images. I can use text wrapping. I can add tables to present information.	I know how to use a desktop publisher to combine text and graphics.	I can create newspapers including text and graphics, adding pictures, resizing and changing font.
Presenting ideas				I understand how a concept map can be used to collect and present information.	I can make notes on a concept map and use these to present information to the class.	I understand that blogs need to be updated regularly to maintain the audience's interest and engagement.	I can create a blog for a specific purpose.

				I understand how to select, insert and combine media.	I can combine a range of media when creating a presentation. I can use hyperlinks to make navigation through a presentation easier.		I can use a range of media in my blog to engage the reader.
Simulations				I understand how I can use CAD (Computer aided design) software to design a product.	I can explore templates and alter shapes by moving points to refine a design. I can print a 2D design and make it into a 3D model.	I know different formats that quizzes can take. I know I need to consider my audience when designing a quiz. I know what sort of questions are best suited to the different question types.	I can use a range of question types to interest the user.
Game Design		I understand that coding can be used to make computer games.	I can use 2Code to produce a simple playable game.	I understand that games require a game environment and characters.	I can design and make a game on a selected theme. I can create a game environment. I can create characters, using animations and sounds.	I know what a text and map-based adventure is. I know the differences between a map-based game and a sequential story-based game.	I can create, test and debug a story- base, and/or a map-based, adventure. I can make logical attempts to debug my code when it does not work correctly.