Computing Progression Plan Years EYFS – 6

Aspect	Reception/EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science							
Hardware	*Pupils have the opportunity to use Ipads and use the interactive whiteboard. *Pupils will also be exposed to a range of technological devices.	*Explore and tinker with hardware to understand how it works. *Understand that computers and devices use inputs and outputs. *Learn where keys are located on the keyboard. *Learn how to operate a camera.	*Understand what a computer is and that it is made up of different components. *Recognise that buttons cause effects and technology follows instructions. *Learn how we know that technology is doing what we want it to via its output. *Use greater control when operating a camera and taking photographs. *Developing confidence with the keyboard and the basics of touch typing.	*Understand what the different components of a computer do and how they work together. *Draw comparisons across different types of computers.	*Learn about the purpose of servers and routers.	*Learn that external devices can be programmed by a separate computer.	*Describe the difference between ROM and RAM and recognise how the size of RAM affects the processing data.
Networks and representation					*Learn what a network is and its purpose. *Identify key components within a network, including whether they are wired and wireless. *Recognise links between networks and the internet. *Learn how data is transferred.	*Learn vocabulary associated with data and transmit. *Learn how the data for digital images can be compressed. *Recognise that computers transfer data in binary code.	*Understand that computer networks provide multiple services. *Identify the purpose of binary code and read simple binary code.

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Computational thinking		*Understand the term decomposition and use it to solve unplugged activities. *Using logical reasoning to predict the behaviour of simple programs. *Develop the skills associated with sequencing in unplugged activities. *Learn that an algorithm is a set of instructions and follow a basic algorithm.	*Use decomposition to decompose an unplugged story or a game into smaller parts. *Learn what abstraction is and that there are different levels. *Explain what an algorithm is, follow an algorithm and create a clear and precise algorithm. *Learn that programs execute by following precise instructions.	*Use decomposition to decompose plugged and unplugged stories and games into smaller parts. *Use decomposition to explore and understand code. *Understand that computers follow instructions. *Use an algorithm to explain the roles of different parts of a computer; explain the purpose of an algorithm and form algorithms independently.	*Solve unplugged problems by decomposing them into smaller parts and use decomposition to understand the purpose of a script of code. *Identify patterns through unplugged activities. *Use past experiences to solve new problems. *Use abstraction to identify the important parts when completing both plugged and unplugged activities. *Create algorithms for a specific purpose.	*Decompose animations into a series of images. *Decompose a program without support. *Decompose a story to be able to plan a program to tell a story. *Predict how software will work based on previous experiences. *Write more complex algorithms for a purpose.	*Decompose a program into an algorithm. *Use past experiences to help solve new problems. *Write increasingly complex algorithms for a purpose.
Programming	*Pupils will follow a simple algorithm to program beebots.	*Program a Beebot to follow a planned route and explain how the Beebot works. *Learn to debug instructions when things go wrong. *Learn to debug an algorithm in an unplugged scenario.	*Use logical thinking to explore software, predict, test and explain what it does. *Use an algorithm to write a basic computer program. *Learn what loops are and incorporate them to make a code more efficient.	*Use logical thinking to explore more complex software; predicting, testing and explaining what it does. *Incorporate loops independently to make code more efficient. *Use a more systematic approach to debugging code, justifying what is wrong and how it can be corrected.	*Code a simple game. *Use abstraction and pattern recognition to modify code. *Incorporate variables to make code more efficient. * Use a more systematic approach to debugging code, justifying what is wrong and how it can be corrected.	*Iterate and develop their programming as they work. *Begin to use nested loops. *Debug their own code and write code to create a desired effect. *Use a range of programming commands, including repetition.	*Debug quickly and effectively to make a program more efficient. *Remix existing code to explore a problem. *Use and adapt nested loops. *Change a program to personalise it. Predict, adapt and evaluate code to understand its purpose.

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Information Technology

Using software	*Pupils will use Paint software to draw and design.	*Use basic tools within graphic editing software. *Take and edit photographs. *Understand how to create digital art using a paint tool. *Develop control of the mouse through dragging, clicking and resizing images to create effects.	*Develop word processing skills, including altering text, copying and pasting, and using keyboard shortcuts. *Use word processing software to type and reformat text. *Use software to create story animations. *Take and label photographs.	*Confidently take photographs and record videos. *Use software to edit and enhance their photographs or videos, adding transitions, music, sounds and text on screen.	*Identify the features of a website. *Design a website, using the appropriate features. *With support, learn how to use 3D design software. *With support, create simple presentations.	*Using logical thinking to explore software more independently, making predictions based on their previous experience. *Use software to create music. *Use 3D design software for a specific purpose. *Create presentations.	*Use logical thinking to explore software independently, iterating ideas and testing continuously. *Create presentations, using different features. *Plan, record and edit videos, adding multiple elements. *Use design software to design a realistic product.
Using email and the internet		*Search and download images from the internet safely. *Recognise and read emails.	*Independently search and download images from the internet safely. *Send and receive emails with an adult.	*Learn to log in and out of an email account. *Write an email, include a subject, to and from. *Send an email with an attachment.	*Developing searching skills to help find relevant information on the internet.	*Learn how to use search engines effectively to find information, focussing on keyword searches and evaluating search returns.	*Understand how search engines work.
Using data		*Pupils are introduced to data in tables and pictograms.	*Collect and input data into tables and pictograms.	*Create and interpret charts and graphs to understand data. *Interpret and sort data to create branching databases, using appropriate vocabulary.	*Identify where digital content can have advantages over paper when storing and manipulating data. *Sort and filter databases to easily retrieve information.	*Understand how data is collected and its advantages. *Identify barcodes and QR codes and how they are used. *Begin to create formulas and sort data within spreadsheets.	*Understand how barcodes, QR codes and RFID work. *Gather and analyse data in real time. *Create formulas and sort data within spreadsheets.
Wider use of technology	*Pupils will be exposed to a range of technological devices from the past and present.	*Recognise some common uses of information technology, in and beyond school.	*Learn how computers are used in the wider world.	*Understand the advantages of email.	*Understand that software can be used collaboratively online to work as a team.	*Use software to collaborative online.	*Understand and describe what a search engine is.

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Digital Literacy and Online Safety							
Using technology safely, respectfully and responsibily	*Adult permission.	*Self-image and identity *Online Relationships *Online Reputation *Online Bullying *Managing Online Information *Health, wellbeing & lifestyle *Privacy and security *Copyright and ownership	*Self-image and identity *Online Relationships *Online Reputation *Online Bullying *Managing Online Information *Health, wellbeing & lifestyle *Privacy and security *Copyright and ownership	*Self-image and identity *Online Relationships *Online Reputation *Online Bullying *Managing Online Information *Health, wellbeing & lifestyle *Privacy and security *Copyright and ownership	*Self-image and identity *Artificial Intelligence *Online Relationships *Online Reputation *Online Bullying *Managing Online Information *Health, wellbeing & lifestyle *Privacy and security *Copyright and ownership	*Self-image and identity *Artificial Intelligence *Online Relationships *Online Reputation *Online Bullying *Managing Online Information *Health, wellbeing & lifestyle *Privacy and security *Copyright and ownership	*Self-image and identity *Artificial Intelligence *Online Relationships *Online Reputation *Online Bullying *Managing Online Information *Health, wellbeing & lifestyle *Privacy and security *Copyright and ownership

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