Progression in Computing

Online Safety

National Curriculum aim:
- **Be responsible, competent, confident and creative users of information and communication technology.**

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*To begin to understand that technology can be used to communicate with people around the world. Intent: Children to gain an insight into the wider world and that devices can communicate Future learning: Y1 U1	*Understand the importance of communication safely and respectfully online. *Understand the need to keep information private. *Knows what to do when concerned about content or being contacted. **Unit 1: Online Safety** **Builds On: EYFS** **Intent:** Children to be responsible online and to know how to raise concerns. Children to begin to understand privacy **Future learning: Y2 Unit 1**	*Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. **Unit 1: Online Safety** **Builds On: Y1 Unit 1** **Intent:** Children can understand peoples identity online. Children can understand about keeping personal information private. **Future learning: Y3 Unit 1**	*Recognises what is acceptable and unacceptable behaviour when using technologies and online services. **Unit 1: Online Safety** **Builds On: Y2 Unit 1** **Intent:** Children can address a range of online issues. Children can use passwords to keep devices and accounts private. **Future learning: Y4 Unit 1**	*Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns. **Unit 1: Online Safety** **Builds On: Y3 Unit 1** **Intent:** Children know how to present themselves online. Children can understand how technology can be distracting and unhealthy at times Children understand that people can pretend to be someone else online. **Future learning: Y5 Unit 1**	*Uses technologies and online services securely, and knows how to identify and report inappropriate conduct. **Unit 1: Online Safety** **Builds On: Y4 Unit 1** **Intent:** Children begin to know how identities can be copied or stolen. Children know how to foster healthy relationships online. **Future learning: Y6 Unit 1**	*Recognises that persistence of data on the internet requires careful protection of online identity and privacy. **Unit 1: Online Safety** **Builds On: Y5 Unit 1** **Intent:** Children can understand how to report issues regarding gender, race and sexuality. Children can be responsible with passwords. **Future learning: Secondary Curriculum**

Information Technology

National Curriculum aim:
• Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*To begin to use technology for single-use simple tasks. *To begin to create marks on a computer/ tablet. *To begin to collect information using technology.	*To identify and recognise the use of information technology *To recognise how digital devices can change the way we work. *To digitally make marks on a computer screen *To be able to store and retrieve information. *To be able to enter and edit text on a computer.	* To identify uses of technology in the wide world. * To explain how to use technology safely in a range of contexts. * To take and edit digital photographs. * To use a computer to create a piece of music.	*To explain how digital devices function. * to explain how a computer network can be used to share information. * To use a computer to create an animation. * To combine text and graphics to share a message.	* To describe how networks connect to other networks. * To understand the functionality of the internet. * To recognise that the world wide web is part of the internet. * To record and edit sound using a digital device. * To use a computer to further manipulate images.	* To recognise that computers can be part of a shared system. * To recognise that connections between computers allow us to work together. * To create and edit graphical objects on a computer screen. * To use a digital device to make a video * To use software to retrieve the video and to edit the video.	*To recall how to use a search engine. * To evaluate different methods of online communications. * To create a web page. * To edit the features of a webpage. * To add hyperlinks to a webpage.
Use paint programme **Intent:** Children to see that mark making is possible when using computers. **Future learning: Y1 U4 Digital painting** **Use a keyboard and mouse** **Intent:** Children to gain basic understanding of how certain pieces of hardware works. **Future learning: Y1 U2, U5** **Know examples of ICT in everyday life.** **Intent:** Children to see how technology is easily	**Unit 2: Technology Around us** **Builds On:** EYFS key skills and knowledge of technology. **Intent:** Children to develop their understanding of technology. Children to begin working on their key skills. **Future learning:** Y2 U2 IT around us **Unit 4: Digital Painting** **Builds On:** EYFS Making a picture **Intent:** Children to learn how to use a range of tools to digitally paint. **Future learning:** Y2 U4, Y5 U5 **Unit 5: Digital Writing**	**Unit 2: IT around us** **Builds On:** Y1 U2 Technology around us **Intent:** Children to look at technology in the wider world and how it can be used to improve settings. **Future learning:** Y3 U2 **Unit 4: Digital Photography** **Builds On:** EYFS using tablets to take pictures **Intent:** Children to understand pictures can be taken on different devices and how to capture and edit photos **Future learning:** Y4 U6 **Unit 5: Making Music**	**Unit 2: Connecting Computers** **Builds On:** Y2 U2 IT around us **Intent:** Children to learn about inputs and outputs and to gain an understanding of networks. **Future learning: Y4 U2** **Unit 3: Desktop Publishing** **Builds On:** Y1 U5 Digital writing **Intent:** To build on digital writing by adding graphics and considering layouts for purpose. **Future learning:** Y6 U5 Web page creation **Unit 6: Stop Frame Animation** **Builds On:** Y2 U4	**Unit 2: The Internet** **Builds On:** Y3 U2 Connecting computers **Intent:** Children will use their knowledge of networks and apply it to the internet. They will learn about the WWW and online content. **Future learning: Y5 U2** **Unit 5: Audio Editing** **Builds On:** Y3 U6 Stop frame animation **Intent:** Children to understand how to record sound using a digital device and produce a podcast. **Future learning:** Y5 U6, Y6 U2 **Unit 6:** Photo editing	**Unit 2: Sharing Information** **Builds On:** Y4 U2 The internet **Intent:** Children to develop their knowledge of networks and to learn how to work collaboratively and remotely. **Future learning:** Y6 U2 **Unit 5: Vector Drawing** **Builds On:** Y1 U4 Digital painting. Various other multimedia units from previous years **Intent:** Children to learn how to create images using shapes **Future learning:** Y6 U5 **Unit 6: Video Editing** **Builds On: Y3 U6 and Y4 U6**	**Unit 2: Communication** **Builds On:** Y5 U2 Sharing information **Intent:** Children will learn about using the world wide web as a communication tool. **Future learning:** KS3 Curriculum **Unit 5: Web Page Creation** **Builds On:** Y3 U3, Y4 U2 and various other multimedia units. **Intent:** Children to understand how to create a web page for a specific purpose. They will also be introduced to copyright issues.

found in daily life and can list examples of when they have seen it used. **Future learning:** Y1 U2	**Builds** On: EYFS Use a keyboard to type **Intent:**Children to become familiar with word processing and the skills required. **Future learning:** Y3 U3, Y6 U5	**Builds On:** Y1 U4/5 multimedia tasks. **Intent:**Children to recognise patterns and how to recreate them. To see the difference between analogue and digital music **Future learning:**Y4 U5	**Intent:** Children to learn the process of stop frame animation by taking a series of pictures. They will also add text to their animations. **Future learning:** Y4 U6, Y5 U6	**Builds On:** Y2 U4 Digital photography **Intent:** To understand how digital images are edited and changed. **Future learning:** Y5 U6, Y6 U5	**Intent:** Children learn how to create and edit short videos. Possible use of green screen. **Future learning: Y6 U2**	**Future learning:** KS3 Curriculum

Computer Science

National Curriculum aim:
- Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*To use and control simple physical systems.	*To be able to give commands to a programmable device. *To Give a set of instructions to follow and predict what will happen. *To improve their commands by debugging.	*To be able to control the nature of events: repeat, loops, single events and add and delete features. *To create simple programs to accomplish a goal. To improve their programs through debugging. *to create a set of instructions and predict what will happen.	*To begin to write programs, explain algorithms and identify errors in their work. *To use logical thinking to solve problems. *To give a set of instructions and predict what will happen. *To write programs with commands in a specific order to achieve a specific outcome.	*To write programs, which they can explain, and to use debugging to identify errors in their work. *To use logical thinking to solve a problem by breaking it into smaller parts. *To write a program, putting commands in a specific order to achieve a specific outcome. *To use variables to create an effect.	*To design, write and debug programs that accomplish specific goals. *To use decomposition to break problems into smaller parts. *To use conditional statements. *To follow a sequence of instructions. *To test a program and recognise when it needs debugging.	*To design, write and debug programs that accomplish specific goals including controlling or simulating physical systems. *To use decomposition to break a problem into smaller parts and use this to design and write a program. *To use conditional statements and edit variables. *To create a sequence of instructions and use them to create a program. *To test a program and recognise when it needs debugging.
Use a beebot/programmable toy Intent: Children to have the opportunity to see how their actions can have an effect Future learning: Y1 U3 Bee bots	Unit 3: Bee bots Builds On: EYFS Bee bots Intent: Children to plan a sequence and to test this on the Bee bot. To begin to debug their mistakes. Future learning: Unit 6: Scratch Jr. Intent: Children to begin to understand coding and how to use the software required. Future learning: Y2 U3	Unit 3: Scratch Jr Builds On: Y1 U6 Intent: Children to build on previous coding to include sequencing and movement. Future learning: Y2 U3 Unit 6: Scratch Jr Builds On: Y2 U3 Intent: To develop coding further and to produce a game.	Unit 4: Lost in Space Builds On: Y2 U6 Intent: Children to be introduced to Scratch program and to learn basic functions. Future learning: Y3 U5 Unit 5: Rock Music Builds On: Y3 U4 Intent: To develop coding knowledge further by adding sound and producing a game. Debugging also introduced	Unit 3: Chat Box Builds On: Y3 U5 Intent: Develop coding further by learning about the use of variables. Debugging and testing also present. Future learning: Y4 U4 Unit 4: Boat Race Builds On: Y4 U3 Intent: Children to continue to use variables but now to	Unit 3: Space Junk Builds On: Y4 U4 Intent:To develop coding skills further by adding a timer and two player functionality to a game. Future learning: Y5 U3 Unit 4: Dots Game Builds On: Y5 U3 Intent: To develop coding skills by adding an interface to a game and to add difficulty levels.	Unit 3: Lego Robots Builds On: Y1 U3 and all other coding units. Intent: Children to understand robotics and how it can positively affect our lives. Future learning: KS3 Curriculum Unit 4: Memory Game Builds On: Y5 U4 Intent: To develop coding skills further by adding broadcasts and more complex variables to a game. Future learning: Y6 U6 Project

		Future learning: Y3 U4	Future learning: Y4 U3	add functionality to the game. Future learning: Y5 U3	Future learning: Y6 U4	Unit 6: Project Builds On: All prior work Intent: Children to be given the freedom to design and build a program they want to use. Future learning: KS3 Curriculum

	EYFS	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
		(REVISE AND SECURE VOCABULARY INTRODUCED IN PREVIOUS YEAR GROUPS)					
Online Safety		Safe Meet Accept Reliable Tell Online Trusted Adult Information Safety Personal Key Question Share Stranger Danger Internet		Meet Accept Reliable Tell Online Trusted Adult Information Safety Personal Internet Worked wide web Communicate Message Social media Email Password cyberbullying/ bullying Plagiarism Profiles Account Private Public		Spam Link Privacy Virus Scam Phishing Inbox Junk Sender Subject Secure Safe Account Online Private Social media Adverts Cyberbullying Reporting Anonymous Victim fraud/ fraudulent Policy private/ personal	

YEAR GROUP VOCABULARY BY STRAND

Information Technology		Filter	Font	Window
		Google	Format	Layout
		Search engine	Fill	Text
		Image	Hyperlink	Font
		Keyboard	Minimise	Format
		Email	Restore	Heading
		Internet	Create	Hyperlink
		Subject	Organise	Pan
		Communicate	Password	Zoom
		Paint	ScreenshotFile	Dimension
		Colour	Folder	Measurement
		Brush	Snipping Tool	Guide
		Tools	Link	
		Settings	Spellcheck	Audio
		Undo		Record
		Redo		Input
		Text	Audio	Output
		Image	Sound	Podcast
		Size	Embed	Digital content
		Application	Link	Downloadable
		Software	Loop	Project
		Window	Animate/animation	Evaluation
		Minimise		Screening.
		Double Click		
		K		

Computer Science		Algorithm Instruction Order Debug Program Turn Left Right Clockwise Anticlockwise Blocks Sequence Project Repeat Forever Invisible Grow Shrink	Decompose Decomposing Logical Sequence Flowchart Sprite Block Command Algorithm Answer Current Errors Program Instructions Commands Forward (fd) Left (lt) Right (rt) Move Turn Clear screen (cs) Variable	Flowchart Algorithm Control Output Symbol Start Stop Delay Process Decision Loop Backdrop Script Block Repeat Commentary Sequence Consequence Debug Program World Object Tool palette Smooth Flatten Raise