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EYFS are not included in this LTP as they learn based on Development Matters and are assessed on the ELGs in June.

KS1 NC Objectives	What are we learning in Willow Class?					
	Computer Science		Information Technology		Digital Literacy	
	Hardware, networks and data representation.	Computational thinking & Programming	Using software	Using email, the Internet and wider technology.	Digital Literacy	
Understand what algorithms are; how they are implemented as programs on digital devices. Create and debug 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.	Introduce children to logging in and using technology for a purpose, including creating art. Using i-pads to take photographs. Appreciate the value of computers, for example: understanding that computers helped us get to the moon!	Learning how computers handle information by exploring 'unplugged' algorithms (these are completing tasks away from the computer). Using Bee-bots to navigate an area and constructing simple algorithms, through a story (i.e. the story of the Three Little Pigs).	Taking and manipulating digital photographs, including adding images found via a search engine. Using a word processing/presentation software to manipulate images and type text.	Using search engines to find images and text. Learning what data is and how it can be represented. For example, charts showing findings from a mini-beast hunt (links to Maths). Looking at and understanding branching databases (links to Science)	To stat to log in and out of their own school accounts. Introduction to online safety. Children to learn what it means to be 'online' and how to stay safe whilst treating others with respect.	
Tier 2 Vocab (words more frequently used)	Explore Type Text Video Photograph	Predict instructions Explain Steps	Image Resize Save Save as Search engine	Chart Computer Data Sort table Information Label Pictogram Text	Connect Devices Internet safety Respect strangers Emotion Feelings Internet Online Sharing trust	
Tier 3 Vocab (not frequently used except when learning specific knowledge and skills)	Keyboard Mouse Touch screen Keys Backspace Enter key Space bar	Algorithm Bee-bot Computing code Computer program Tinker Decomposition	Crop Delete Download Drag and drop Editing software Import Smart device Storage space Visual effects	Categorise Record Sort Database Represent	Communicate Digital footprint Smart device Personal information Posting Wired Wireless	
PROGRESSION AND SEQUENCING-From EYFS						
The class teacher will highlight this LTP as they add it into their MTP to ensure coverage. Each topic will start with time spent discussing what	Learning how to operate a camera to take photographs of meaningful creations or moments. Learning how to explore and tinker with hardware to develop	Using logical reasoning to read simple instructions and predict the outcome. Following instructions as part of practical activities and games	Using a simple online paint tool to create digital art.	Participating in group image searches, led by the teacher. Representing data through sorting and categorising objects in unplugged scenarios.	Recognising that a range of technology is used in places such as homes and schools. Learning to log in and log out. When using the internet alongside an adult or	

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has previously been learnt and how the current topic will build on previous learning. Key subject specific vocabulary will be taught in each topic.	familiarity and introduce relevant vocabulary. Learning how to operate a camera. Recognising that a range of technology is used in places such as homes and schools. Learning what a keyboard is and how to locate relevant keys. Learning what a mouse is and developing basic mouse skills such as moving and clicking.	and learning to debug when things go wrong. Learning to give simple instructions. Learning that an algorithm is a set of instructions to carry out a tasks in a specific order. Experimenting with programming a Beebot and learning how to give simple commands. Learning to debug instructions with the help of an adult when things go wrong.		Representing data through pictograms. Explaining branch databases through physical games.	independently, learning what to do if they come across something that worries them or makes them feel uncomfortable.

	Progression/Assessment Criteria – Y1
End of Y1 Objectives	I can explore and tinker with hardware to find out how it works.
	I understand that computers and devices around us use inputs and outputs. I can identify some of these.
	I know where keys are located on the keyboard.
	I can operate a camera.
	I understand what the internet is.
	I know that decomposition means breaking a problem down into smaller parts.
	I can use decomposition to solve unplugged challenges.
	I can use logical reasoning to predict the behaviour of simple programs.
	I can develop my sequencing skills in unplugged activities.
	I can begin to know that an algorithm is set up of step-by-step instructions used to carry out a task in a specific order.
	I can follow a basic set of instructions.
	I can assemble instructions into a simple algorithm.
	I can program a Beebot/Virtual Beebot to follow a planned route.
	I am develop a how-to video to explain how the Beebot works.
	I am learning to debug an algorithm in an unplugged scenario.
	I am learning to debug instructions when things go wrong.
	I can use a basic range of tools within graphic editing software.
	I can take and editing photographs.
	I can create digital art using an online paint tool.
	I can control a mouse through dragging, clicking and resizing of images to create different effects.
	I am beginning to understand different software tools.
	I can search and download images from the internet safely
	I know that we are connected to others when using the internet.
	I can begin to understand spreadsheets.
	I can represent data in tables, charts and create branching databases.
	I can identify where digital content can have advantages over paper when storing and manipulating data.
	I can recognise common uses of information technology, including beyond school.
	I understand some of the ways we can use the internet.

	I can log in and out and saving work of my own school account
	I understand the importance of a password.
	I know what to do (when using the internet to search for images or learning) if I come across something online that worries them or makes them feel uncomfortable.
	I can recognise when someone has been unkind online.
	I am learning some top tips for staying safe online.
	I am beginning to understand how we 'share' information on the internet.

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KS1 NC Objectives	What are we learning in Elm Class?				
	Computer Science		Information Technology		Digital Literacy
	Hardware, networks and data representation.	**Computational thinking & Programming**	**Using software**	**Using email, the Internet and wider technology.**	**Digital Literacy**
Understand what algorithms and programs execute by following precise and unambiguous instructions. 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.	Children explore what a computer is, learning about inputs and outputs, how computers are used in the wider world – for example people who use computes to design inventions.	Identifying problems with code using both 'unplugged' and 'plugged' systems to debug (identify and correct) errors in algorithms. Using Probots and Bebots (links with maths). Using Scratch Junior, pupils to use their developing programme skills to: • Retell a familiar story • Make an animation • Design a musical instrument • Record a joke.	Children use their developing word processing skills to create presentations, pictures and documents. Children to write simple messages to friends. Stop Motion using movie-maker - Pupils create simple animations storyboarding their ideas then decomposing it into small parts to be captured.	Children to build on their understanding of how computes sense the world around us: for example, how data is collected and used to keep astronauts safe on the International Space Station.	Children learn how to be careful about who we talk to online. Learn how to keep personal information safe online, including their fight to give and deny permission for information to be shared online.
Tier 2 Vocab (words more frequently used)	Documents Enter Return Mouse Typing	Forward Backward Turn Directions Steps Programming testing Paint effects Animation	Questions Charts Retrieve Import Image Storyboard Content Graphs Save Paint Plan Sketch	Data Digital content Experiment Space Monitor (verb) Website Information sources	Accept Password Online Permission
Tier 3 Vocab (not frequently used except when learning specific knowledge and skills)	Template Caps lock Backspace	Debug Right-angle turn Abstraction Sequence Algorithm Predict Sequence Bug Debug	Data Communication Animator Contraption Decomposition Capturing Purposes Magnified images Stop-moiton	Approximate Astronaut Interactive map thermometer Laboratory Satellite Sensor Space	Consent Content Offline Personal information Terms and conditions Trusted adult
PROGRESSION AND SEQUENCING- From Year One					
The class teacher will highlight this LTP as they add it into their MTP to ensure coverage. Each topic will start with time spent discussing what has previously been learnt and how	Using the school computers to play games; being familiar with a keyboard to login in more independently; understanding that things can be stored and retrieved form cameras and i-	From using toys such as Beebots to using programs such as Scratch and Scratch Junior to pre-plan algorithms for a particular purpose.	Know how to use i-pads/tablets and cameras safely; understand you have to ask before taking someone's photograph or entering someone else's information online; knowing that	To have a basic understanding that the internet is a web of computers with information; Know who to tell and have a basic understanding of how to seek help if they see	To be able to tell someone several different uses for computers and other technology.

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the current topic will build on previous learning. Key subject specific vocabulary will be taught in each topic.	pads/tablets/phones; to start to retrieve own work.		information can be shared with others using devices and be able to recount some safety rules. Starting to use word processing and presentation software.	inappropriate things on the internet.	To show they can keep themselves safe on the internet with school equipment.

	Progression/Assessment Criteria – Y2
End of Y2 Objectives	I understand what a computer is and that it's made up of different components.
	I can recognise that buttons cause effects that technology follows instructions.
	I know that technology is doing what we want it to do via its output.
	I am using greater control when taking photos with tablets or computers.
	I know where different keys are on the keyboard and the basics of touch typing.
	I can tell someone what decomposition is.
	I can decompose a game to predict the algorithms used to create it.
	I can use decomposition to decompose a story into smaller parts.
	I am beginning to learn what abstraction is.
	I am learning that there are different levels of abstraction.
	I can explain what an algorithm is.
	I can follow an algorithm.
	I am learning that computers use algorithms to make predictions.
	I am learning that programs execute by following precise instructions.
	I can incorporate loops within algorithms.
	I can use logical thinking to explore software, predicting, testing and explaining what it does.
	I can use an algorithm to write a basic computer program.
	I am learning what loops are.
	I can incorporate loops to make my code more efficient.
	I am developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts.
	I can use word processing software to type and reformat text.
	I can use software to create story animations.
	I can create and labelling images.
	I understand that personal information should not be shared on the internet.
	I am learning how to be respectful to others when sharing content online.
	I can collect and input data into a spreadsheet.
	I can interpret simple data.
	I am learning how computers are used in the wider world.
	I understand that personal information should not be shared on the internet.
	I am learning how to be respectful to others when sharing content online.

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KS2 NC Objectives	What are we learning in Beech Class – Cycle A?					
	Computer Science		Information Technology		Digital Literacy	
	Hardware, networks and data representation.	**Computational thinking & Programming**	**Using software**	**Using email, the Internet and wider technology.**	**Digital Literacy**	
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • Understand computer networks including the internet; how they Creating a clear and precise algorithm. can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and come in a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Children investigate the role of computers, for example, in forecasting and recording weather as well as how technology is used to present forecasts. Children understand how computers communicate. Children learn about networks and the internet and how they are used to share information.	Scratch Programming Using Scratch, with its block-based approach to coding, pupils learn to tell stories and create simple games (see separate Scratch Skills progression sheet). HTML Pupils explore the language behind well-known websites, while developing their own understanding of how to change the core characteristics of a website using HTML and CSS.	Developing video editing skills. Children create and develop a book trailer, storyboarding their trailers beforehand and then filming and editing their videos, adding transitions, music, voice and text.	Learning to work collaboratively in a responsible way using document sharing tools including Google Docs and Sheets.	Pupils develop their understanding of how to identify trustworthy information online and consider the implications of technology.	
Tier 2 Vocab (words more frequently used)	Algorithm Automated machine Calculate Temperature Weather	Climate Device Forecast Predict Record	Animation Application Code Code block Content Webpage	Debug Decomposition Predict Program Hacker Permission	Application Desktop Digital device Edit Film graphics	Import Key events Plan Laptop Sound effects	Device File Internet Network Link Share	The cloud Wi-fi Wired Wireless Email	Ad / advertisement Alter Belief Fact	Fake Gaming Social media Respectful Reliable
Tier 3 Vocab (not frequently used except when learning specific knowledge and skills)	Log data Sensor Browser	Source spreadsheet	Interface Loop Sprite Tinker Copywrite URL	Re-mixing code Repetition code Script	Import Time code Voiceover		Network map Network switch Router e-document	Server Submarine cables Access point Transition	Bot Chatterbot Influencer Implication Live- streaming	Pop-ups Snippet Sponsored

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KS2 NC Objectives	What are we learning in Beech Class – Cycle B?				
	Computer Science		Information Technology		Digital Literacy
	Hardware, networks and data representation.	**Computational thinking & Programming**	**Using software**	**Using email, the Internet and wider technology.**	**Digital Literacy**
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and come in a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Inside a Computer Children learn about the different parts of a computer through role-play and develop their own understanding of how they follow instructions.	Computational Thinking Through developing their understanding of the four pillars of computational thinking, children learn to identify them in different contexts. Scratch Coding The coding program Scratch is explored further by revisiting key features and introducing children to 'variables' in code and scripts.	Top Trumps Databases Developing children's understanding of data and databases. Children play with and create their own Top Trumps cards, learning how to interpret information by ordering and filtering.	Website design Children design and create their own websites, considering content and style as well as understanding the importance of working collaboratively. Email Children learn how to send emails, including attachments and how to be responsible digital citizens.	To understand that you can't trust everything you rea don the internet. Learning about social media platforms including their age-restrictions and privacy settings.
Lower Key Stage Two Vocabulary						
Tier 2 Vocab (words more frequently used)	Algorithm Computer Computer program Data Desktop Instructions Tablet	Algorithm Design Code Icon Feature Computer Decompose Problem Tinker	Data Information Record Graphs Charts Sort	Content Create Design Edit Spam Username Attachment password Insert Online Plan Email Email account Emoji Log on Log off	Accurate Age-restricted Beliefs Opinion Privacy settings Block Content Digital devices Fact Reliable Report Requests Search engine
Tier 3 Vocab (not frequently used except when learning specific knowledge and skills)	ROM Trackpad	Abstraction Code blocks Conditional statement Variable Stage Orientation	Categorise Fields filter Database Spreadsheet	Embed Feature Tab Cyber-bullying domain Header Hyperlink BCC CC	Autocomplete Security questions Smart devices Fake news Social media platforms Social networking

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PROGRESSION AND SEQUENCING From Year Two					
The class teacher will highlight this LTP as they add it into their MTP to ensure coverage. Each topic will start with time spent discussing what has previously been learnt and how the current topic will build on previous learning. Key subject specific vocabulary will be taught in each topic.	Able to produce digital content and place and resize images. Can look on google images to scratch images for their own work. Resize and place words/pictures and text boxes onto work.	Creating simple algorithms using symbols and words that have specific purposes. Creating simple programs using Bebots, Probots and on screen sprites using Scratch Junior.	To be respectful of technology and know how to work computers and tablets. Remember the school rules for safe internet use. Know not to give their name/school details online.	Know what a search engine is; know what email is; know you can retrieve information from the WWW. Have begun to use search engines themselves and are wary that not everything they read online is true.	Know some rules to keep safe online; Know to seek an adult if they see any images or content that is scary or inappropriate. Know there are adverts on websites and can log onto the school network independently using their user name and password.

	Progression/Assessment Criteria – LKS2 – Y3
End of Year 3 Objectives	I understand what the different components of a computer do and how they work together.
	I can make comparisons across different types of computers.
	I am learning what a server does.
	I am learning what a network is and its purpose.
	I can identify the key components within a network, including whether they are wired or wireless.
	I can recognise links between networks and the internet.
	I know how data is transferred.
	I can use decomposition to explain the parts of a laptop computer.
	I can use decomposition to explore the code behind an animation.
	I can use repetition in programs.
	I understand that computers follow instructions.
	I can use an algorithm to explain the roles of different parts of a computer.
	I can use logical reasoning to explain how simple algorithms work.
	I can explain the purpose of an algorithm.
	I can form algorithms independently.
	I can use logical thinking to explore more complex software; predicting, testing and explaining what it does.
	I can incorporate loops to make code more efficient.
	I can remix existing code.
	I can use a more systematic approach to debugging code, justifying what is wrong and how it can be corrected.
	I can take photographs and recording video to tell a story.
	I can use software to edit and enhance my video adding music, sounds and text on screen with transitions.
	I understand the vocabulary associated with databases: field, record, data.
	I am learning about the pros and cons of digital versus paper databases.
	I can sort and filtering databases to easily retrieve information.
	I can create and interpreting charts and graphs to understand data.
	I am learning to log in and out of an email account.
	I can write an email including a subject, 'to' and 'from'.
	I can send an email with an attachment.

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	I can reply to an email.
	I can identify useful terms and phrases for search engines.
	I understand the purpose of emails.
	I know what a search engine is.
	I can recognise how social media platforms are used to interact.
	• I am learning to be a responsible digital citizen; understanding their responsibilities to treat others respectfully and recognising when digital behaviour is unkind.
	I know about cyberbullying.
	I am learning that not all emails are genuine, recognising when an email might be fake and what to do about it.
	I know that not all information on the internet is factual.
	I understand who personal information should/shouldn't be shared with.
End of Year 4 Objectives	**Progression/Assessment Criteria – LKS2 – Y4**
	I am learning about the purpose of routers.
	I understanding of the key components of a network.
	I understand that websites & videos are files that are shared from one computer to another.
	I know about the role of packets.
	I understand that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration.
	I can solve unplugged problems by decomposing them into smaller parts.
	I can use decomposition to understand the purpose of a script of code.
	I can use decomposition to help solve problems.
	I can identify patterns through unplugged activities.
	I can use past experiences to help solve new problems.
	I can use abstraction to identify the important parts when completing both plugged and unplugged activities.
	I can create algorithms for a specific purpose.
	I understand that websites can be altered by exploring the code beneath the site.
	I can code a simple game.
	I can use abstraction and pattern recognition to modify code.
	I can Incorporate variables to make code more efficient.
	I can re-mix existing code.
	I can use a more systematic approach to debugging code, justifying what is wrong and how it can be corrected.
	I can build a web page and creating content for it.
	I can design and create a webpage for a given purpose.
	I can use Google online software for documents, presentations, forms and spreadsheets.
	I can work collaboratively with others.
	I understand why some results come before others when searching.
	I understand that information on the internet is not all grounded in fact
	I understand that software can be used collaboratively online to work as a team.

	I can recognise what appropriate behaviour is when collaborating with others online.
	I can recognise that information on the Internet might not be true or correct and that some sources are more trustworthy than others.
	I am learning about different forms of advertising on the internet.

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KS2 NC Objectives	What are we learning in Oak Class – Cycle A?				
	Computer Science		**Information Technology**		**Digital Literacy**
	Hardware, networks and data representation.	**Computational thinking & Programming**	**Using software**	**Using email, the Internet and wider technology.**	**Digital Literacy**
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and come in a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Mars Rover 1 Pupils explore inputs and outputs as well as Binary numbers to understand how the Mars Rover transmits and receives data and how scientists are able to control it to explore another planet. Mars Rover 2 Children learn how the Mars Rover is able to send images all the way back to Earth and experiment online CAD software to design new tyres for it.	Programming Music Composing music using code through Sonic Pi or Scratch. Pupils can compose simple tunes culminating in a 'battle of the bands' using loops of music. Microbit Programming a Microbit to display animations or messages on its simple LED display using block coding.	Programming Music links Big Data 1 Children learn how data is collected and stored by exploring barcodes, QR codes and RFID chips. Children investigate how collecting bid data can be used to help people in a variety of different scenarios. Mars Rover 2	Big Data 2 Children learn the difference between mobile data and WiFi and how data is transferred. Children use this understanding to design their own smart school.	Online Safety Considering online communication and the effects on mental health and wellbeing.
Upper Key Stage Two Vocabulary Cycle A					
Tier 2 Vocab (words more frequently used)	Data Computer simulation Data transmission Discovery Distance Sequence Input Moon Numerical data Output Planet Radio signal scientist	Basic commands Code Error Rhythm Soundtrack Bluetooth Code blocks Bug Debug Programming language Tempo Tinker Pedometer Variable	Barcode Data Data privacy Encrypt Signal systems Brand Computer Contactless QR code Radio waves Transmission	Big data QR code SIM Computer simulation Bluetooth Corrupt data	Application (app) Bullying Emoji Gif Hacked Reliable Interpreted Judgement Meme Mental health Misinterpreted Permissions Reputation
Tier 3 Vocab (not frequently used except when learning specific knowledge and skills)	Binary code CAD JPEG pixels Binary image Bit Bit pattern	Live loop Timbre .hex file .zip file Loop Pitch Emulator	Boolean RFID analyst Inferred wages NFC	Digital revolution GPS IoT Smart School/City	Anonymity

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KS2 NC Objectives	What are we learning in Oak Class – Cycle B?				
	Computer Science		**Information Technology**		**Digital Literacy**
	Hardware, networks and data representation.	**Computational thinking & Programming**	**Using software**	**Using email, the Internet and wider technology.**	**Digital Literacy**
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and come in a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Links to WW2 Children learn about the history of Bletchley Park, including key historical figures, how the first modern computers were created as a WW2 code breaking team and consider how computers have evolved over time.	Intro to Python Building on children's knowledge of coding from previous years, children are introduced to the text-based programming language Python, which is the language behind many apps and programs such as Dropbox.	Links to WW2 Children investigate secret codes and how they are created, exploring 'brute force' hacking and learn how to make passwords more secure. Stop Motion Animation Collaboratively create a stop-motion animation by sharing and then decomposing their ideas. Children will develop their abilities to edit and improve their creations.	Search Engines To enable children to quickly and accurately find information and become independent learners, they need to develop their searching skills and learn how to identify trustworthy sources.	Online safety Considering online communication and the effects on mental health and wellbeing.
Upper Key Stage Two Vocabulary Cycle B					
Tier 2 Vocab (words more frequently used)	Invention Computer CPU Mouse Radio Technological advancement Memory storage	Algorithm Computer command Variable Code Decompose Import Loop	Password Sound effects Touch screen Animation Animator Background Decompose Upload Trial and error Trackpad Design Duplicate Editing Frame illusion	Algorithm Data leak Inaccurate information Online Website Logo Data privacy Index Keywords Network	Application (app) Hacked Interpreted Reliable Permissions Bullying Emoji Gif Judgement reputation
Tier 3 Vocab (not frequently used except when learning specific knowledge and skills)	Byte OS RAM Background noise ROM	Nested loop Random numbers Script libraries Remix	Acrostic code Brute-force hacking Caesar cipher Storyboard Stop-motion Cipher Encryption Onion skinning Nth letter cipher Pigeon cipher	Page rank Wed crawler TASK WWW	Anonymity Meme Misinterpreted
PROGRESSION AND SEQUENCING- From Lower Key Stage Two					
The class teacher will highlight this LTP as they add it into their MTP to ensure coverage. Each topic will start with time spent discussing what has previously been learnt and how the	To fluent with programs such as word, PowerPoint, google and other search engines. To know the different types of media (visual, audio, still and moving	Creating programs to control onscreen sprites and external robots where loops and direction is needed. The use of repetition in sequencing and	To know how to use school equipment and equipment from home. To know about email, computer networks and have a basic knowledge of the WWW.	To know some information online is not true and to start to gain skills to spot this by cross referencing and checking. To use different search engines	To know the rules to keep safe online and use them. To be able to seek help if needed from digital images seen online. To understand that images are

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current topic will build on previous learning. Key subject specific vocabulary will be taught in each topic.	etc). To be able to design and create and present information digitally.	able to start to debug their own and other programs.	To know what is safe and unsafe behaviour online.	and start to use communication devices such as email.	hard to get rid of once online and how to stay safe and keep others safe online.

	Progression/Assessment Criteria – UKS2 – Y5
End of Year 5 Objectives	I know that external devices can be programmed by a separate computer.
	I know the difference between ROM and RAM.
	I can recognise how the size of RAM affects the processing of data.
	Understanding the fetch, decode, execute cycle.
	I know the vocabulary associated with data: data and transmit.
	I know how the data for digital images can be compressed.
	I can recognise that computers transfer data in binary and understanding simple binary addition.
	I can relate binary signals (Boolean) to the simple character-based language, ASCII.
	I know that messages can be sent by binary code, reading binary up to 8 characters and carrying out binary calculations.
	I understan how bit patterns represent images as pixels.
	I can decompose animations into a series of images.
	I can decompose a program without support.
	I can decompose a story to be able to plan a program to tell a story.
	I can predict how software will work based on previous experience.
	I can write more complex algorithms for a purpose.
	I can program an animation.
	I can iterate and develop my programming as I work.
	I can begin to use nested loops (loops within loops).
	I can debug my own code.
	I can write code to create a desired effect.
	I can use a range of programming commands.
	I can use repetition within a program.
	I can amend code within a live scenario.
	I can use logical thinking to explore software more independently, making predictions based on my previous experience.
	I can use a software programme (Sonic Pi or Scratch) to create music.
	I can use video editing software or animation software to animate.
	I can identify ways to improve and edit programs, videos, images etc.
	I can independently use 3D design software package TinkerCAD.
	I can develop searching skills to help find relevant information on the internet.
	I understand how apps can access our personal information and how to alter the permissions.
	I understand how data is collected.
	I know about different forms of communication that have developed with the use of technology.
	I know about how permissions work and how to change them.
	I can identify possible issues with online communication.
	I can consider the effects of screen-time on physical and mental wellbeing.
	I know about online bullying and where to seek advice.

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	Progression/Assessment Criteria – LKS2 – Y6
End of Year 6 Objectives	I am beginning to learn about the history of computers and how they have evolved over time.
	I can use the understanding of historic computers to design a computer of the future.
	I understand and identifying barcodes, QR codes and RFID.
	I can identify devices and applications that can scan or read barcodes, QR codes and RFID.
	I know that corruption can happen within data during transfer (for example when downloading, installing, copying and updating files).
	I understand that computer networks provide multiple services.
	I can decompose a program into an algorithm.
	I can use past experiences to help solve new problems.
	I can write increasingly complex algorithms for a purpose.
	I can debug quickly and effectively to make a program more efficient.
	I can remix existing code to explore a problem.
	I can use and adapt nested loops.
	I can program using the language Python.
	I can change a program to personalise it.
	I can evaluate code to understand its purpose.
	I can predict code and adapt it to a chosen purpose.
	I can alter a website's code to create changes.
	I can use logical thinking to explore software independently, iterating ideas and testing continuously.
	I can use search and word processing skills to create a presentation.
	I can plan, record and editing a radio play.
	I can create and edit sound recordings for a specific purpose.
	I can create and editing videos, adding multiple elements: music, voiceover, sound, text and transitions to create a video advert.
	I can use design software TinkerCAD to design a product.
	I can create a website with embedded links and multiple pages.
	I understand how search engines work.
	I understand how barcodes, QR codes and RFID work.
	I can gather and analysing data in real time.
	I can create formulas and sorting data within spreadsheets.
	I know about the Internet of Things and how it has led to 'big data'.
	I know how 'big data' can be used to solve a problem or improve efficiency.
	I understand the importance of secure passwords and how to create them, along with two-step authentication.
	I can use search engines safely and effectively.
	I can recognise that updated software can help to prevent data corruption and hacking.
	I can consider my own digital footprint and online reputation and future implications I may have.
	I know how to collect evidence and report online bullying concerns.