Willow Tree Academy

Computing Scheme of Work

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“A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.”

Computing National Curriculum 2014

National Curriculum Content:

EYFS - Learning Goals	KS1	KS2
- Understanding the World - Recognise that a range of technology is used in places such as homes and schools. - Select and use technology for particular purposes.	- 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.	- 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 combine 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 - Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact.

These objectives have been shared into 6 areas:

E-Safety & E-Sense	Network Communication	Computer Science
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. Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact.	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.	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.
Data & Data Representation	**Digital Literacy**	**General Skills**
Select, use and combine 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	Use technology purposefully to create, organise, store, manipulate and retrieve digital content Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Recognise that a range of technology is used in places such as homes and schools. Recognise common uses of information technology beyond school Use technology purposefully to create, organise, store, manipulate and retrieve digital content

Long Term Plan

- Each area **must** be covered in that term.
- Where possible it should link to topic or have cross curricular links.
- Children should be given opportunity to use technology to solve problems (REAL/STEM).
- It is important that technology is used as a day-to-day element of school life and across all subject areas, therefore if opportunities to use ICT arise which do not fall within the curriculum for each year group, they should be taken advantage of.

Long Term Plan:

Transition	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
E-Safety **Network Communication** **General Skills** Setting up files in shared	**E-Safety** Health, Wellbeing and lifestyle **Network Communication** Emails **Digital Literacy** Design **Comic Life** **Purple Mash** **Book Creator**	**E-Safety** Reputation & Bullying **Computer Science** **Bee Bots** **Turtle** **Blockly Code** **Scratch** **Micro:Bit**	**E-Safety** Online Relationships (PSHE) **Digital Literacy** Video and Sound **I Can Animate** **iMovie** **Sound Garage** **WT Oscars Video**	**E-Safety** Self Image & Identity (PSHE) **Data & Data Representation** **Google Sheets** **Data Loggers**	**E-Safety** Managing online information **Digital Literacy** Design **Google Sites** **Canva**	**E-Safety** Privacy, security and copyright **Computer Science** AR/VR **Tinkercad** **Sketchup** **3D Printing**

Skills Progression

EYFS - Y6

E-Safety & E-Sense

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Health Wellbeing and lifestyle: - Identify rules to keep them safe when they are using technology both in and beyond the home. **Reputation and bullying:** - Describe ways that some people can be unkind online. - Offer examples of how this can make others feel.	**Health Wellbeing and lifestyle:** - Explain rules to keep them safe when they are using technology both in and beyond the home. **Reputation and bullying:** - Recognise that information can stay online and could be copied. - Know who they should ask if they are not sure about information shared online. - Describe how to behave online in ways that do not upset others and can give examples.	**Health Wellbeing and lifestyle:** - Explain simple guidance for using technology in different environments and settings. **Reputation and bullying:** - Explain how information put online about them can last for a long time. - Talk about how someone can/would get help about being bullied online or offline.	***Be Internet Legends scheme to use with WT Warriors - https://beinternetlegends.withgoogle.com/en-gb/*** **Health Wellbeing and lifestyle:** - Explain why spending too much time using technology can have a negative impact on their wellbeing. **Reputation and bullying:** - Recognise they need to be careful before sharing information online. - Describe what information should not be put online. - Explain what bullying is and can describe how people may bully others. - Describe rules about how to behave online and how they should follow them.	**Health Wellbeing and lifestyle:** - Explain how using technology can become a distraction and when they might need to limit screen time. - Suggest strategies to help limit time using technology when needed. **Reputation and bullying:** - Explain ways that some of the information about them online could have been created, copied or shared by others. - Identify some online technologies where bullying might take place. - Explain why they need to think carefully about how content they post might affect others.	**Health Wellbeing and lifestyle:** - Describe ways technology can affect healthy sleep and can describe some of the issues. - Describe some strategies, tips or advice to promote healthy sleep with regards to technology. **Reputation and bullying:** - Describe ways that information about people online can be used by others to make judgments about an individual. - Describe how to get help for someone that is being bullied online and assess when they need to do or say something or tell someone. - Know how to block abusive users and why it is important to do so. - Describe the helpline services who can support them (e.g. Childline).	**Health Wellbeing and lifestyle:** - Describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) - Explain the importance of self regulating use of technology; can demonstrate the strategies they can use to do this (e.g. monitoring my time online, avoiding accidents). **Reputation and bullying:** - Explain how they are developing an online reputation which will allow other people to form an opinion of them. - Describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help.

E-Safety & E-Sense

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Self image and Identity: - Recognise that they can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks them to do something that makes them feel sad, embarrassed or upset. - Explain how this could be either in real life or online **Online Relationships:** - They can give examples of how they (might) use technology to communicate with people they know.	**Self image and Identity:** - Know that if something happens that makes them feel sad, worried, uncomfortable or frightened they know when and how to speak to an adult they trust. **Online Relationships:** - Explain why it is important to be considerate and kind to people online	**Self image and Identity:** - Explain how other people's identity online can be different to their identity in real life. - Can describe ways in which people might make themselves look different online. **Online Relationships:** - Give examples of how they might use technology to communicate with others they don't know well.	***Be Internet Legends scheme to use with WT Warriors - https://beinternetlegends.withgoogle.com/en-gb/*** **Self image and Identity:** - Explain what is meant by the term 'identity'. - Explain how they can represent themselves in different ways online. - Understand ways in which they might change their identity depending on what they are doing online and why (e.g. gaming; using an avatar; social media). **Online Relationships:** - Describe ways people who have similar likes and interests can get together online. - Explain risks of communicating online with others they don't know well. - Explain why they should be careful of who they trust online and what information they can trust them with. - Know they can take back their trust in someone or something if they feel nervous, uncomfortable or worried.	**Self image and Identity:** - Explain how their online identity can be different to the identity they present in 'real life'. - Make good decisions about how they interact with others and know how that changes how others perceive them. **Online Relationships:** - Explain what it means to 'know someone' online and why this might be different from knowing someone in real life. - Describe strategies for safe and fun experiences in a range of online social environments. - Give examples of how to be respectful to others online.	**Self image and Identity:** - Explain how identity online can be copied, modified or altered - Demonstrate responsible choices about their online identity, depending on context. **Online Relationships:** - Make positive contributions and be part of online communities. - Describe some of the communities in which they are involved and describe how they collaborate with others positively. - Show an understanding of their responsibilities for the well-being of others in their online social group.	**Self image and Identity:** - Describe ways in which media can shape ideas about gender. - Identify messages about gender roles and make judgements based on them. - Challenge and explain why it is important to reject inappropriate messages about gender online. - Describe issues online that might make them or others feel sad, worried, uncomfortable or frightened. Know and can give examples of how they might get help, both on and offline. **Online Relationships:** - Explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). - Demonstrate how they would support others - Demonstrate ways of reporting problems online

Links to PSHE Scheme of work
Spring 1 - Relationships
Year 6 - Self Image to be taught in Summer Term

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
E-Safety & E-Sense	**Privacy, security and copyright:** - Describe the people they can trust and can share personal information with; explain why they can trust them. - know that work they create belongs to them.	**Privacy, security and copyright:** - Explain how passwords can be used to protect information and devices - Explain why work they create using technology belongs to them (e.g. 'it is my idea' or 'I designed it')	**Managing online information:** - Explain the difference between things that are imaginary, 'made up' of 'make believe' and things that are 'true' or 'real'. **Privacy, security and copyright:** - Describe why other people's work belongs to them. - Recognise that content on the internet may belong to other people	***Be Internet Legends scheme to use with WT Warriors - https://beinternetlegends.withgoogle.com/en-gb/*** **Managing online information:** - Explain how the internet can be used to sell and buy things. - Explain the difference between a 'belief', an 'opinion' and a 'fact'. **Privacy, security and copyright:** - Understand and can give reasons why passwords are important. - Describe simple strategies for creating and keeping passwords private. - Describe how connected devices can collect and share information with others. - Understand what the word copyright is. - Explain why copying someone else's work from the internet without permission can cause problems.	**Managing online information:** - Analyse information and differentiate between 'opinions', 'beliefs' and 'Facts'. - Understand what criteria have to be met before something is a 'fact'. - Describe some of the methods used to encourage people to buy things online. - Explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true. **Privacy, security and copyright:** - Explain what a strong password is. - Explain that others online can pretend to be me or other people, including my friends. - Explain how internet use can be monitored. - Understand what a scam is and how to avoid 'phishing' - When searching on the internet for content to use, they can explain why they need to consider who owns it and whether they have the right to reuse it.	**Managing online information:** - Understand the difference between misinformation and disinformation. Explain what is meant by 'being sceptical'. - Give examples of when and why it is important to be 'sceptical'. Explain what is meant by a 'hoax'. - Explain why information that is on a large number of sites may still be inaccurate or untrue and assess how this might happen. **Privacy, security and copyright:** - Create and use strong and secure passwords. - Explain how free apps or services may read and share my private information. - Explain how and why some apps may request or take payment for additional content and explain why they should seek permission from a trusted adult before purchasing.	**Managing online information:** - Explain how and why some people may present 'opinions' as 'facts'. - Define the terms 'influence', 'manipulation' and 'persuasion' and explain how they might encounter these online - Demonstrate strategies to enable them to analyse and evaluate the validity of 'facts' and explain why using these strategies are Important. - Identify, flag and report inappropriate content. **Privacy, security and copyright:** - Know what to do if a password is lost or stolen. - Explain what app permissions are and can give some examples. - Describe simple ways to increase privacy on apps and services that provide privacy settings. - Use search tools to find and access online content which can be reused by others.

Network Communication

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
- Begin to understand that computers can be linked together in different ways. - Begin to understand email and websites. - Use digital devices and computers to communicate, e.g. webcams. - Begin to save work on a class network folder. - Begin to understand e-mail and web sites. - Begin to obtain content from the world wide web using a web browser.	- Discuss and share how and when they use ICT in everyday life. - Complete simple tasks on a computer by following instructions. - Load and save work on a class network folder. **Emails:** - Recognise an email address. - Find the @ key on the keyboard. - Contribute to a class email - Open and select reply to an email as a class.	- Explain why digital folders are used. - Retrieve, load and save work on a class network folder. - Organise work into their own digital folder. **Emails**: - Recognise an email address. - Find the @ key on the keyboard. - Contribute to a class email -Open and select reply to an email as a class.	- Describe input and output devices used in everyday life. - Be able to explain that the computers in the classroom are part of the school network that is connected by wires (or wirelessly) to a main computer called the server. - Select colour or black and white on a printer printer. - Know that other devices such as printers, projectors and visualisers may also be connected. Draw or a label a diagram to show this. **Emails/Communication** - Log on to an email account, open emails, create and send appropriate replies. - Attach a file to an email. - Begin to use video conferencing as a class. - Understand there are other methods of communication e.g. blogging, instant messaging and when these can be used etc.	- Be able to explain that the server is connected to the Internet which is made up of a global network and is able to communicate with other servers to share resources and data. Draw or a label a diagram to show this. - Discuss opportunities of online communication & collaboration (e.g. e-mail, Skype, Google Hangouts, FaceTime) - Use Google drive where pupils can share ownership of online documents to collaborate with others. **Emails/Communication** - Create and send an email to a partner, selecting the recipient from an address book. - Contribute to discussion forums, blogs and surveys, using WordPress - School blog. - As a class or group make use of video conferencing technology to exchange ideas and collaborate on projects with other schools. (linking Project)	- Demonstrate knowledge & understanding of computer systems and hardware by identifying and defining the functions of the processor, memory, backing storage and peripherals in a typical desktop computer. - Explain how email & online discussion areas are used for communication & collaboration (Skype, Google Hangouts, FaceTime, School blog - WordPress etc.) **Emails/Communication** - Use and refine their skills while independently creating, sending and responding to emails, blogs and forums.	- Demonstrate knowledge and understanding of how networks work by describing the types of service offered (e-mail, www, ftp and video conferencing) - Exchange information both internally & externally, taking care that communications are appropriate in tone and content. - Explore the design of the school network to develop an appreciation of how the computers and other devices are connected to each other and the Internet. **Emails/Communication** - Produce formal or informal messages appropriate to a task or to solve problems (requesting information, sharing data, etc.)

Computer Science

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
- Understands and follow instructions. - Begin to write own Algorithms using arrow cards. - Use a simple application on a computer or device (eg. iPad) - Begin to use a Bee Bot alongside arrow cards Resources for EYFS: https://www.barefootcomputing.org/earlyyears	Bee Bots (iPad App) - Understand what an algorithm is (a sequence of instructions or set of rules for performing a specific task) - Understand that algorithms need to be precise, simple, clear and limited. (Unplugged lessons). - Understand that an algorithm is implemented as a program/code on a digital device. - Give commands including straight forwards, backwards, one command at a time. - Explore what happens when a sequence of instructions is given to a Bee Bot (using algorithm cards). - Use the word debug when they correct any mistakes while programming a Bee Bot.	Bee Bots (iPad App) Scratch Jr (iPad app) Logo - Understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following a sequence of instructions. - Use logical reasoning to predict the behaviour of simple programs. - Write/input and test a simple program to achieve a desired outcome - Give commands including straight, forwards, backwards, turn, one command at a time. - Give a sequence of instructions to follow a task - Give a set of instructions to form simple geometric shapes and follow routes. - Improve/change their sequence of commands	Blockly language - Begin to use PRIMM with support to check code (Predict, Run, Investigate, Modify, Make). - Can begin to solve simple Parsons Problems - Begin to use and understand **repetition** and **loops** in programs scaffolded by **worked examples**. (each section of the code labelled to explain function) - Comment on and explain the function of each part of a program. - Analyse and tackle problems by breaking them down into smaller parts and understand that they are decomposing a problem. (Computational Thinking) - Understand abstraction is focusing on important information. - Understand different input and output options - Be aware that blockly is a computer language.	Blockly language - Use PRIMM to check code (Predict, Run, Investigate, Modify, Make). - Can solve Parsons Problems with a distractor - Design and write programs that accomplish specific goals, working with **repetition, loops and selection** (if/then) blocks of code. - Comment on and explain the function of each part of a program. - Use abstraction to focus on what's important in my design - Analyse and tackle problems by breaking them down into smaller parts and understand that they are decomposing a problem and know that they are using (Computational Thinking) - Test and debug parts of an algorithm separately. - Understand the need for precision when creating algorithms.	Blockly language - Use PRIMM to work with code (Predict, Run, Investigate, Modify, Make). - Can solve Parsons Problems with multiple distractors. - Know how and when to use **repetition**, **loops, selection** (if/then) and **variable** blocks of code while coding. - Comment on and explain the function of each part of a program. - Use flowcharts and other diagrams to follow how a process or model works. - Use Computational Thinking to solve problems and model situations and processes. - Know how computer programming is embedded in everyday life e.g. automatic doors, robots in car factories, security lights. - Evaluate and decompose a program, edit and improve it to make a more efficient system.	Blockly language - Use PRIMM When coding (Predict, Run, Investigate, Modify, Make). - Confidently know how and when to use **repetition**, **loops, selection** (if/then) and **variable** blocks of code while coding. - Refine algorithms to improve efficiency and achieve desired outcomes. - Produce algorithms **independently** using logical and appropriate structures from worked examples and prior knowledge. - Create flowcharts and other diagrams to follow how a process or model works. - Independently problem-solve, model situations and processes by understanding and explaining the impact of changing variables and rules within a model.

Data & Data Representation

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
- Can identify a chart. - Begin to sort physical objects, take a picture and discuss what they have done. - To present simple data on a digital device.	- Know that images give information - Say what a pictogram is showing them - Can sort images or text into two or more categories on a digital device. - Begin to collect data on a topic as a class. - Create a tally chart and pictogram. - Create a recording explaining what they have done and what it shows them.	- Sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software. - Orally record each other explaining what the data shows them. - Create a branching database using questions	- Collect information using a questionnaire. - Enter data into a prepared database or spreadsheet. - Produce graphs from the data, with support. - Create a sorting diagram and complete a data handling activity with it using images and text.	- Create an online multiple choice questionnaire to collect data. - Begin to identify data handling opportunities Create and search a branching database. - Begin to notice mistakes or inaccuracies in data when prompted. - Input data into a spreadsheet and export the data in a variety of ways: charts, bar charts, pie charts. - Use a database to carry out an investigation. - Use a spreadsheet to explore number patterns eg in a hundred square, x table sq.	- Create and publish an online questionnaire and analyse the results independently. - Know how to check for and spot inaccurate data. - Enter information into a spreadsheet using appropriate headings. - Move to a specific cell in a spreadsheet. - Use simple formulae to solve calculations including =sum and other statistical functions - Use a spreadsheet to investigate e.g. cost of foods/drinks Which is the best value drink?	- Create and publish an online questionnaire with a range of media (images and video) and analyse the results independently. - Know how to check for and spot inaccurate data. - Use formulae and functions in a spreadsheet. - Write spreadsheet formula to solve more challenging maths problems. - Understand that changing the numerical data effects a calculation. - Change data to satisfy ‘What if’ queries. - Make graphs from the data on my spreadsheet & use editing tools to alter its design

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	**Design:** - Know some common uses of information technology beyond the classroom. - Move and resize images with fingers or mouse. - Create a digital collage from photos given or taken. **Augmented/Virtual Reality:** - Scan a QR code. - Explore a 360 image.	**Design:** - Edit content in a range of programmes/apps e.g. format text, insert images, add transitions in slides, edit photographs, use different tools in paint packages. - Combine digital content from multiple sources. - Use ICT to generate ideas for their work - Use various tools such as brushes, pens, rubber, stamps, shapes. **Augmented/Virtual Reality:** - Talk about AR objects in my class - Explore an interactive 360 image.	**Design:** - Edit content in a range of programmes/apps - Search for and save photos on the computer and iPad. - Combine digital content from multiple sources. - Insert clipart, add photographs to presentations. - Use various tools within different online applications - Use undo/redo tool. - Copy/Cut and paste. **Augmented/Virtual Reality:** - Create a QR code - Scan a trigger image to begin a AR experience.	**Design:** - Understand that a digital image can be captured from a number of different devices and it can be stored, developed and enhanced. - Acquire, store and combine images from cameras or the Internet. - Enhance digital images and photographs using crop, brightness, contrast & resize - Create digital content for an audience and purpose taking into account the principles of good design. **Augmented/Virtual Reality:** - Create a QR code to link back to their own learning. - Create a 360 image - Begin to add objects into their surroundings through AR	**Design:** - Use the print screen function to capture an image. - Edit pictures using various tools in paint or photo-manipulation software. - Explain how to 'photoshop' (Edit) images and how this is used in the media. - Think about **PAFT** for digital content created. - Create and export an interactive presentation including a variety of media, animations, transitions and other effects. CANVA - Create a simple web page using Google Sites. **Augmented/Virtual Reality:** - Add multiple objects into their surroundings through AR to explain a concept. **3D Modelling:** - Draw 3D shapes. - Draw simple 3D models. - Manipulate 2D shapes into 3D shapes. - Import 3D models from the 3D warehouse.	**Design:** - Understand that computers save graphics as many different file types. - Routinely evaluate and improve as part of a design process - Understand the difference between object based graphic packages and paint packages. - Enhance a presentation by acquiring, storing, and combining images from different sources - Create and export an interactive presentation including a variety of media, animations, transitions and other effects. CANVA - Create a webpage (Google Sites) with an embed video. **Augmented/Virtual Reality:** - Create an interactive poster using AR - Create an interactive VR experience. **3D Modelling:** - Draw and manipulate 3D models. - Accurately resize objects.	**Design:** - Understand that computers save graphics as many different file types and that some are better suited to certain purposes than others (PDF, Jpeg, PNG) - Independently capture store retrieve and edit digital images to improve them. - Understand issues relating to copyright of images – e.g. when selecting image sources. - Edit a picture to remove items, add backgrounds, merge 2 photos - Create a website (Google Sites) which includes a variety of media. - Use a 3D drawing app to create a realistic representation of world objects **Augmented/Virtual Reality:** - Create and upload their own VR Google Expedition. **3D Modelling:** - Draw and manipulate scaled 3D models independently. - Choose 3D shapes that can be combined to create more complex shapes.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	**Video:** - Know the difference between a photography and video. - Record and play a film **Sound Recording:** - Record a voice over (linked to a pre-made image or video).	**Video:** - Use a camera to capture images. - Discuss which videos to keep and which to delete. **Sound Recording:** - Understand that sound can be recorded and played back. - Record sound at a computer/handheld device - Use software to record their own sounds, with help.	**Video:** - Capture video/images for a specific purpose - Arrange clips to create a short film - Add a title and credits **Sound Recording:** - Record sound at and away from the computer. - Use software to record sounds (e.g. music software to create & play their own composition) - Change sounds recorded Save, retrieve and edit sounds	**Video, film and animation:** - Write and record a script using a prompter tool. - Begin to use green screen techniques with support. - Take a series of pictures to form a simple animation. - Improve stop motion animation clips with techniques like onion skinning. - Edit and improve their animation in iMovie **Sound Recording & Music:** - Locate and use sound files from Internet - Use music software to experiment capturing, repeating and reordering sound patterns.	**Video, film and animation:** - Use a storyboard to plan what they would like to happen in their film or animation. - Take a series of pictures to form an animation. - Begin to evaluate the suitability of the presentation for the given audience. - Adjust the number of photographs taken and the playback rate to improve the quality of the animation. **Sound Recording & Music:** - Record and edit sound on the computer. - Use ICT to create & perform sounds or music (Garageband).	**Video, film and animation:** - Capture video for a purpose. - Discuss the quality of videos and chose which to keep and which to re-shoot. - Trim and arrange clips to convey meaning. - Add titles, credits, slide transitions, special effects and talk about the effect these have on the audience. **Sound Recording & Music:** - Use music software to plan, create and play their own compositions. - Evaluate and modify compositions.	**Video, film and animation:** - Plan a multi-scene animation including characters, scenes, camera angles and special effects. - Trim, arrange and edit audio levels of video to improve the quality of their outcome. - Add titles, credits, transitions, special effects. - Export their video in different formats for different purposes **Sound Recording & Music:** - Use more sophisticated music software to plan, create, edit and play their own compositions.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
General Skills	- Operate simple equipment, e.g. turn on a CD player, use a remote control. - Use ICT hardware (mouse, keyboard) to interact with age appropriate computer software. - Start to recognise that computers need programs to function.	- Operate a range of hardware incl.: cameras, video cameras, sound recording devices, tablets, keyboard, mouse etc. - Perform basic operations on a digital device (includes PC's, tablets, cameras, robots etc.) e.g. switch on/off, log on/off, open/close programmes, enter text etc. - Print work using the Print icon. - Use both hands on the keyboard. - Load programs with support. - Save work with support. - Retrieve work with support. - Talk about how they are using ICT. - Start to use appropriate ICT vocabulary.	- Load programmes, save & retrieve work independently. - Plan what they are going to do. - Edit their work. - Practise keyboard skills using both hands, try to use more than two fingers, & try to use the thumb on the spacebar. - Explain their work and how they have used ICT. - Use appropriate vocabulary. - Use undo/redo tool. - Copy/Cut and paste.	- Use a range of ICT equipment and software with support. - Create and name new folders, with support. - Print work using the drop down menu. - Make changes to their work. - Consolidate keyboard skills. - Understand sentence alignment and how to align sentences. - Highlight/select items. - Explain their work and how they have used ICT. - Begin to use keyboard shortcuts for copy and paste (Ctrl+C, Ctrl v) - Copy and paste on chromebooks	- Choose an appropriate program (app or web based), with support. - Create and name new folders, independently. - Use Print Preview. - Understand that work can be saved in different places e.g. network, writeable CD ROM, USB Pen Drive - Plan what they are going to do and evaluate the results. - Describe their work & explain how & why they have used ICT. - Collaborate with peers using online tools - Use keyboard shortcuts for copy and paste (Ctrl+C, Ctrl v)	- Choose an appropriate program to perform a task - Understand and use the hierarchical file system. - Combine information from various sources. - Describe and discuss their work and explain how and why they have used ICT.	- Choose and combine the use of appropriate ICT tools to complete a task. - Critically evaluate the fitness for purpose of work as it progresses. - Annotate their work samples using prompt questions

Apps & Websites

To Support Teaching and Learning

Apps and programmes to support teaching and learning:

Maths

- Sumdog
- Times Tables Rockstars
- Geoboard
- Photomath
- Show Me
- Whiteboard
- Measure

Literacy

- Popplet Lite
- ThingLink
- Comic Life 3
- Wordsalad (similar to a word cloud)
- Book Creator

Science

- Comic Life
- ThingLink
- Book Creator
- Show Me
- Easysense

Other Media

- Imovie
- Green Screen (by Do Ink)
- GarageBand
- I Can Animate
- Video Star
- Pic Collage
- Youtube Kids

School Subscriptions

1. Espresso (Discovery Learning)
2. LanguageNut
3. Sumdog
4. Times Table Rockstars
5. Purple Mash - 2Simple
6. Active Learn
7. Get Set 4 PE Subscription

Websites to support teaching and learning:

Online Learning:

- Google - Slides, docs, sheets, forms
- Jamboard - collaboration

Add on to Google Drive

- Mote - audio marking and sound files

Add on to Google Drive

- Whiteboard.fi - online whiteboard visible to teachers

https://whiteboard.fi/

Other Websites

- Wordwall - assessment

https://wordwall.net/

- Padlet - collaboration and assessment

https://padlet.com/dashboard

- Flipgrid - create short videos

https://info.flipgrid.com/

- Socrative - quizzing and assessment

https://www.socrative.com/

- Kahoot - quizzing and assessment

https://kahoot.com/

Useful Websites/Apps linked to Scheme of Work

E-Safety & E-Sense

Google Scheme of work - Willow Tree Warriors
https://beinternetawesome.withgoogle.com/en_uk/toolkit
Lots of resources linked to E-safety
https://learning.nspcc.org.uk/research-resources/schools/e-safety-for-schools/
CEOP
https://www.ceop.police.uk/safety-centre/
Think U know
https://www.thinkuknow.co.uk

Digital Literacy

Canva - creating print and digital design material - Great for video presentations
https://www.canva.com/

Google Drive: Sites - Creating Website designs
https://sites.google.com/

Computer Science

Online games linked to coding - lesson plans KS1/2
https://hourofcode.com/uk
Online game - Children can have logins for diary
https://www.codeforlife.education/
Lesson plans and activities - KS2
https://csfirst.withgoogle.com/en/home
Projects - UKS2
https://www.madewithcode.com
Online Tutorials/projects:
https://www.codeclub.org.uk/projects

Tinkercad
https://www.tinkercad.com/dashboard
Tutorials that link to curriculum areas - KS2
https://projects.raspberrypi.org/en/
3D printing
https://www.thingiverse.com/

Micro Bit Lessons
https://microbit.org/teach/lessons/
https://microbit.nominetresearch.uk/networking-book-online/

Data & Data Representation

Purple Mash
https://www.purplemash.com

Lesson plans for all areas of our computing curriculum

https://teachcomputing.org/curriculum

https://teachers.thenational.academy/subjects/computing/key-stages/key-stage-2

https://www.barefootcomputing.org/

Glossary of terminology:
https://blog.teachcomputing.org/primary-computing-glossary/

General Skills

Google Drive
https://www.google.co.uk/drive/

ICT Scheme of work
EG - Updated: Summer 2022