Creating and Communicating with Digital Skills Curriculum Intent

All lessons should include the following knowledge and skills in order to create and communicate digitally

Saving and Retrieving

Children will be taught how to start a new project, save it and retrieve it. Over the key stages, children will learn how to save versions of the work and organise their digital life. Likes are made with knowledge of computer systems, and they understand the links to where they are saving, weather locally, server based, or cloud based

Typing and Mouse Skills

Typing and mouse skills will be introduced in Foundation. By the end of Year 6, a desirable outcome would be for children to touch type. This will increase the speed at which they work on presentations.

Research

This strand teaches searching the internet, browsing website, and evaluating online information skills. Children need to select, use, and combine a variety of software and apps (including internet services and images)

Computer systems

Pupils learn how IT systems work. They identify IT devices, their uses and build knowledge of how networks operate to keep devices connected and sharing information. They understand the links to where they are saving, weather locally, server based, or cloud based

Staff CPD on Computer Systems.

Create and Communicate Skills to be taught

Image

This strand teaches photography and digital image skills. How to capture, edit and use photographs. How to design and create digital images, edit, and use them.

Film

This strand teaches film skills. How to capture film, edit and use film effectively

Sound- Creating music and sound engineering

This stand teaches sound and audio skills. Part of this strand progresses digital music creation and sound layering. Part of this strand progresses voice narration and editing and processing audio for podcasts.

Data

This strand teaches children how to use spreadsheets and tables to aid their calculations, models and investigations in science and maths. Children learn how to input data and present it as graphs or charts. They will use their graphs and charts to answer questions and support their argument/ opinion.

Knowledge and Understanding Outcomes - Each unit has a finished digital artefact.

Presenting Work Digitally

Create and Communicate ideas in posters, digital books, word processed reports/documents/articles, slideshow presentations of data, films and radio/podcast shows, images.
ICT is an effective way of organising and presenting findings or messages to an audience. Through school, children need to refine their presentation skills to ensure their message is communicated appropriately.

When presenting work, children are bringing together their skills using images, film, sound. They will apply their typing and mouse skills, save/retrieve their projects. Presenting work shows what children have researched.
Children should have the opportunity to apply their image, film, sound, and data skills in these different forms of presentation.

Evaluating

After presenting work, children need to evaluate their use of technology in communicating their findings, messages, or final digital artifact to an audience.

In this strand children will decide if their skills have been used appropriately and effectively.

EQT Applied Computing Curriculum- Heymann

	Nursery	Reception	Year1	Year 2	Year3	Year4	Year5	Year 6
Research	(teacher modelling) • Look at age appropriate websites to support a topic • Use an electronic book instead of a printed book	• Use map software to look at satellite and street view images of a place as a class/group	• Search the internet for images to talk about to answer a question in topic (scroll through google images, look at a gallery of images online) "What do the images tell us? "What was the great fire of London like?" • Independently use a website or interactive text.	• Search the internet for information to read. • Ass 'for children/ kids for appropriate results • Search the internet for information by selecting 'web' 'images' 'videos' and 'news' tabs after searching.	• Locate a webpage using a URL.(web address) • Find and save appropriate images/ text from the internet in their work • Use "quotation marks" when searching phrases for more specific results	• Skim and scan search engine results and look at their web address to evaluate usefulness. • Use site:[URL] to limit search results to a specific website (eg. Search a trusted source 'covid- 19:bbc.co.uk' to show results from only bbc.co.uk • Use 'child definition:' for an age appropriate word/phrase definition	• Use advanced search techniques, eg. Image size/ type key words. Eg Google image search tools • Add 'define' before a word or phrase to get a definition of it, or add 'etymology' before a word to see its origins	• Explore and generate digital links (For example QR codes) http://www.qr-code-generator.com/ • Use translate: to find the English translation of a word from another language.
	• Pupils are introduced to the principle of searching when they're asked to identify and locate objects within their environment. They start to become familiar with the process of finding out information. They might ask their friends, family or teacher questions, or start to look in books or at classroom displays.		• As teachers, we should model the effective use of search engines, illustrating how to enter specific search terms that will return the best results. • Pupils should gain experience of using (and seeing used) a range of search engines, developing an understanding of the features common to each, including the filtering of results • Introduce the idea that organisations can have adverts placed at the top of search-results pages. Pupils should also understand that, thereon down, results are ranked according to their respective, perceived relevance to the search terms used.			• Pupils continue to develop their effective use of search engines whilst learning about the computer science behind them. Pupils should learn how web crawlers build up an index of the World Wide Web, moving from web page to web page via links in those pages, fetching the content into a search engine's index, which can be likened to the index in a book. • Pupils should be aware that, when using a search engine, they're searching its own index of the web, not the web itself. They'll observe how search engines return results as web links in a list. This list can extend over many pages, and is ordered according to an assessment of the relevance of the information in each result to the search terms entered by the user. • Introduce the idea that, in a particular search, a search engine 'asks' a range of questions about the content of – and links to – each of the web pages selected from its index, and that it then scores them accordingly to determine their respective rankings within the list of results. Ideally, pupils should search for the same terms across different search engines, to compare the results and rankings. • Effective searching - Searching information on computers - KS3 ICT Revision - BBC Bitesize)	
	• google earth		• mic to dictate qu's into search engine • www.swiggle.org.uk	• mic to dictate qu's into search engine • www.swiggle.org.uk	• mic to dictate qu's into search engine • www.swiggle.org.uk	• search engines	• search engines	• search engines
Typing & Mouse Skills	F1 • Play on a touch screen game/board • Use a keyboard/mouse/trackpad for fun, even in role play pretend computers.	• Type own name • Enter single letters on a keyboard • Use a mouse/track pad on a computer	• Use space bar to make spaces between words • Use backspace to delete letters/words • Make a new line with enter key	• Use space bar only once between words • Use cursor/touch to find the letter/word to delete with backspace • Copy/Paste text and images by using the icons in the software • Use caps lock for a capital	• Use index fingers on keyboard: they sit on the home keys (f/j) from there use Thumbs for pressing the space bar. • Use Left fingers for a s d f g • Use right fingers for h j k l • Use enter key for new line. • Use shift key for a capital.	• Touch type with increasing speed by using fingers to reach from top line keys, resting index fingers on home keys (f/j) • Work with 2 windows snapped to the sides of the screen when finding information • Use keyboard shortcuts for cut, paste and delete	• Touch type with increasing speed by placing index fingers on home keys (f/j) use fingers to reach for top line keys and lower line keys. • Use keyboard shortcuts for cut, paste and delete	• Touch type with increasing speed by placing index fingers on home keys (f/j) use fingers to reach for top line keys and lower line keys.
	• Book creator	Beebot	Tux type	Primary games website Bluetooth keyboard with tablet	• Bluetooth keyboard with iPad • Dancemat (BBC) •Typingclub.com		• https://www.typingclub.com/ • Dancemat (BBC) •Typingclub.com	
Saving and retrieving	F1 • How to close a program/game • How to open a game from icon/link	• Recognise save icon • Use new page icon • Make choices from a range of software/apps	• Save work within the program (such as within login) • Open specific software on device	• Save work on the school network (overwrite previous versions). • Open a file on the school network	• Save work on the school network, renaming different versions. (File_Name V1, File_Name V2, File_Name V3) • save to camera roll and transfer to computer	• Independently navigate the network and folders confidently and save consistently. • Search files and folders, sort by date • Upload work to cloud storage to create digital portfolio •Search windows explorer for a file name or date or order by modified date		
Computer Systems	• Understand what is an electronic device and find them around school. • Know how to use cameras, sound recording, video recording • Open and close software	• Know examples of computer systems (including tables, phones etc) • Describe some uses of computers	• Use computer systems for different types of activities • Explain the need to use computers in different ways	• Know the difference between input and output devices and identify some • Recognise that a computer network is made up of a number of devices and how they share information • Know that computers and other school devices are connected to form a network – illustrate this by showing them the switches, hubs and connecting wires	• Demonstrate how information is shared across the internet • Discuss why a network needs protecting • Know that children request access to our network by logging in with a username and a password. • Know that some of the same software can be accessed across our devices (e.g. that they can print to the same printer from different locations, • Start to understand that the computers within our school network are connected to computers across the world as part of the internet.	• Describe that a computer system features inputs, processes, and outputs • Recognise that data is transferred using agreed methods • Learn about the different hardware components of a LAN. (One activity is to take them on a hunt around the school to locate devices such as the server, switches, hubs, client computers and printers. In so doing, they'll learn about the role each of these plays within the network, and about the benefits of networking computer systems.)	• Explain that networked digital devices have unique addresses • Explain that data is transferred over networks in packets • Understand that the internet is a vast network of networks of computers and devices, connected across the planet. • Use visual trace-route tools like http://en.dnstools.ch/visual-traceroute.html to track the global location of a web server within which the content for a particular web page is stored. • Complete unplugged activities, such as making a 'human model' of the internet. (see barefoot computing resources)
Resources	•	•	• Key Stage 1 (teachcomputing.org)	• Key Stage 2 (teachcomputing.org) • (278) The Internet is not the Web - YouTube		• Key Stage 2 (teachcomputing.org) Barefoot computing resources		

	Nursery	Reception	Year1	Year 2	Year3	Year4	Year5	Year 6
Images (photography and digital art)	**Photography** • Take a photograph using a tablet/camera	**Photography** • Take a photograph using a tablet and using in an app • Know what the shutter button is • Know to focus the camera • Take a photograph on a camera to use print it to cut/stick for a purpose	**Photography** • Edit a photo with simple tools eg: drawing on top of it, adding stickers. **Digital Art** • Use shape and line tools • Change colours • Use undo and rubber	**Photography** • Use more advanced tools to edit photos eg: crop, add filters. **Digital Art** • Select and use appropriate tools to create digital image (control the pen and then flood fill the shape).	**Photography** • Take a digital photo and know the subject of an image: landscape or portrait. • Frame the subject in the camera • Edit landscape photography using brightness and contrast	**Digital Art** • **Create** a digital image using a variety of brush types, pen tools and effects. • Change brush size and type • Change opacity • Use blending	**Photography** • Take a digital photo using appropriate camera settings (macro/ sport mode) • Enhance digital images and photographs using crop, brightness, contrast & resize tools and filters	**Photography/ Digital Art** • Edit picture to remove items, add new backgrounds, and merge 2 photos. • (Discuss photoshopping in the media-fake news/ celeb photos and body image) • Use a 3D graphic drawing program to create a realistic representation of real-world objects
	Digital camera/ ipad camera Doodle Buddy		Paintz app	Picolladge Sketches School	photos	Sketches School	Camera photos	PIXLR
Support resources					Everyone can create photo: ---Links with Geography topic and local area study.--	Everyone can create photo: make a logo	(283) Digital Doodle - YouTube	https://pixlr.com/editor/ Sketch up
Film/ animation	**Film**: • Record and play a short film using tablet/camera	**Film** • Record and play a film • (small world play films) • Watch films back on tablet/digital camera	**Animation** • Create a stop frame animation using app/software	**Film** • Film selfie videos • Shoot directly in to the camera using record and stop. • Find saved film in Camera Roll (Photos app) • Understand how greenscreen can be used to make it look like you are somewhere else. (with support)	**Animation** • Sequence clips onto a timeline. • Begin to add titles and transitions. • Cut/Trim video • Use green screen techniques (with support)	**Film** • Edit clips • Film with a buffer either side • Use green screen • Add titles and transitions • Add music and sound effects • Combine clips, audio and titles into a film for a purpose.	**Animation** • Animate using stop motion, • Use green screen techniques (with Create a stop frame animation • Add music, sound effects • Add titles and transitions	**Film** • Create a video using appropriate tools and techniques to create an atmosphere/ mood (eg. Road safety WWII) • Use green screen • Add music, sound effects, voice
	Digital camera/ ipad camera		Animatic	Clips	Puppet pals iMovie	Clips Greenscreen	Clips I can animate	iMovie
Support resources				How to use Green Screen		Apple Teacher- Clips	How to use Green Screen	
Sound (Creation and sound engineering)	**sound engineering** • Record sounds with different resources (eg: talking tins, talking postcards, voice record software). • Use plastic 'echo' mics to hear voice differently. • Find ways to change your voice in the environment (shouting down a tunnel, talking in a tube, using tin-can string telephones) **Reception**: • Record sounds/voices in story telling/ explanations		**Digital music creation** • Create a sequence of sounds (instruments, music software) • Experiment with long and short sounds	**Digital music creation** • Create a musical composition with music software • Change and adapt the composition • (Links to curriculum)	**Digital music creation** • Create and edit purposeful compositions using music software • Know that computer software can aid in music production	**Sound Engineering** • Trim speech sections • Use voice effects • Add intro/outro music • Insert audio recordings to slide show presentations • Move tracks around in editing process • Add/compose appropriate background music tracks	**Digital music creation** • Use sampled sounds to create an effective mix. • Build beats, melody (tones) and effects. **sound engineering** • Adjust the volume of each track so that some tracks are louder than others for emphasis • Add echo, fade in/out effects to voice recordings for dramatic effect	**Digital music creation** • Edit tracks and effectively adjust volume and add effects. • Layer tracks using sounds and effects. **Sound engineering** • Add echo, fade in/out effects to voice recordings for dramatic effect • ---See links to Film---
	Talking tins Easi-speak Plastic echo mics	• Toca band	Sketch-a-song	Sketch-a-song		Garage band	Incredibox Garage band	Garage band
Support resources					Chrome Music Lab - Song Maker	Using the Audio Recorder in GarageBand Trimming audio in GarageBand: https://appleteacher.apple.com	Garage band – using live loops Everyone can create part 4	Instruments – chords/notes: Everyone can create part 1-3 chords and melodies part 5: post production
Data	• Use pictograms/ charts as part of lessons with the children • Know that information can be shown in graphs		• Use pictograms/ charts as part of lessons with the children • Know that graphs can make data easier to understand	• Enter data in to a pictogram and use it find answers to simple questions (linked to maths curriculum) • Type data into a table	• generate bar charts and pictograms to display collected d	Use a database to: • answer simple questions by sorting a field. • answer simple questions by using search criteria. • Add a record to a file in a computer database. ---see links to using a search engine and the concept behind it-	• Use graphs to provide supporting evidence for their conclusions about relationships (science links) • Enter data and formulae into cells and drag-copy to create tables of results. • Create graphs from spreadsheets. • Modify data, make predictions of changes and check results. • Use 'SUM'.	• Create branching databases to organise information and create classification keys.
	• iTouch IWB software • Purple token totals • J2Data (j2e.com)	• iTouch IWB software • Purple token totals • JIT5 (j2e.com)	• iTouch IWB software • Purple token totals • JIT5 (j2e.com)	• J2Data (j2e.com)	J2Data (j2e.com)	• J2Data (j2e.com)	• Decibel meter • Data logger/ Logit • Numbers/ Excel	• Numbers / Excel • Decibel meter (app) • JIT5 (j2e.com) (branching Database)

	Nursery	Reception	Year1	Year 2	Year3	Year4	Year5	Year 6
Presenting (Bringing sound, image, film together for an audience)	• Display children's photographs. • Children talk about film/photo work	• Display children's photographs. • Children talk about film/photo work • Make a class/group multimodal text with photos and sound • Explore a talking book	• Insert image on digital document • Change text, font, size and colour tools • Move images in to correct places on app/software	• Record audio onto pages of digital book • Edit text including changing the appearance, positioning of text to suit a purpose (eg poster). • Insert shapes/ symbols onto digital books. • Move/Resize images in to correct places on app/software	• Add borders and other effects (shadow/ glow) to digital images. • Use cut, paste and delete to organise and reorganise text on screen • Experiment with font sizes and effects (bold, underline, wordart) for different audiences & purposes • Use a spell check.	• Combine digital images from different sources to make a final image. • Generate 'word art' and insert into digital book. • Use cut, paste and delete to organise and reorganise text on screen to suit a purpose (eg Presentation, poster, newspaper article) • Use font sizes and effects appropriately for audience & purpose • Use a spell check and thesaurus.	• Organise and reorganise text on screen to suit a purpose • Use Hyperlinks in a digital book or presentation to navigate • Add text boxes for titles and body text to organise word processing • Organise and reorganise text on document to suit a purpose	• Format text to suit a purpose (tab, justify, bullet points) • Choose the most suitable applications and devices to communicate to a specific audience
	Picolladge	Picolladge	Book creator Keynote	Book creator Skitch	Book creator Keynote	Book creator pages	pages Keynote Book creator	
					• Word	• PowerPoint, Word • Flamingtext.com	• Sway, publisher, PowerPoint • Flamingtext.com • PIxabay/ Unsplash	• Sway, publisher, PowerPoint • Flamingtext.com • PIxabay/ Unsplash
Evaluating	• Say what software to use for a task • Talk about own digital work (share photographs from a school trip or holiday to recall a past event) • Name apps that can be used to create or learn.		• Know when to print your work – is it all finished? • "Does it look right on paper?" • Have you used the right colours when you've printed? • Are the fonts/images in the correct places when printed?	• Save work as version 1 and adapt for version 2 before printing • "Does it look right on screen?" • Adapt colours/fonts/sizes of images before printing version 2	• Check work is finished and has name on before printing • Check colours and fonts and images are appropriate to task	• Plan and keep to a specific style or look for their work- are the fonts, colours, layout appropriate and effective for the content and audience (eg. Don't use rainbow colours in a PPT about the Holocaust, don't use yellow text on white in a poster as it's hard to read)	• Do you have permission to use the images you have included in your work?	• Evaluate another's presentation on the basis of content and appropriate style. • Refine the quality of presentations as a result of peer review. • Did you credit the owners of digital work you have gained permission to share?