

Great Chart Primary School

Curriculum Skills Map Computing



January 2022

We aim to provide creative and co-operative ways for the pupils to learn together so that all can succeed. As such we follow a skills based curriculum and we have aimed to create a document based around the key skills we see as relevant for life in the 21st Century. We believe that a curriculum heavily based on knowledge is no longer relevant, as knowledge is now so readily available at our fingertips. Instead, we want to foster in our pupils a love of learning, and develop their creativity and critical thinking through skills such as collaboration, research, problem solving, presentation, evaluation and reflection. These skills are reflected through the objectives identified in each subject area to help us develop confident, excited and proud learners who will be our leaders of the future and become a dynamic, adaptable workforce with high levels of reasoning and problem solving skills.

Teaching and learning within our school, as far as possible, is taught through a cross curricular approach to enable the children to make connections between their learning, leading to a deeper learning experience. Links are made wherever possible between subjects, however we recognise that Science, PE and RE will often need to be taught in a discrete manner.

Computing Skills Progression - Great Chart Primary School

Word Processing/ Typing		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	<p>I know how to play on a touch screen game and use computers/keyboards/mouse in role play</p> <p>I know how to type letters with increasing confidence using a keyboard and tablet.</p> <p>I know how to dictate short, clear sentences into a digital device.</p>
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	<p>I know how to confidently type words quickly and correctly on a digital device.</p> <p>I know how to .use the spacebar to make space and delete to delete letters/ words</p> <p>I know how to make a new line using enter/return</p> <p>I know how to dictate into a digital device more accurately and with punctuation.</p>
Year 2		<p>I know how to use the space bar only once between words and use touch to navigate to words letter to edit</p> <p>I know how to copy and paste images and text</p> <p>I know how to use caps locks for capital letters.</p> <p>I know how to add images alongside text in a word processed document.</p> <p>I know how to dictate longer passages into a digital device with accurate punctuation.</p>
Year 3	select, use and combine a variety of software (including internet services) on a range of digital devices to design and	<p>I know how to use index fingers on keyboard home keys (f/j), use left fingers for a/ s/d/f/g, and use right fingers for h/j/k/l</p> <p>I know how to edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and</p>

	create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	shadows. I know how to use cut, copy and paste to quickly duplicate and organise text.
Year 4		I know how to combine digital images from different sources, objects, and text to make a final piece of a variety of tasks: posters, documents, eBooks, scripts, leaflets. I know how to confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text I know how to use font sizes appropriately for audience and purpose. Use spell check and thesaurus including through Siri and other AI technology
Year 5		I know how to apply other useful effects to my documents such as hyperlinks. I know how to import sounds to accompany and enhance the text in my document. I know how to organise and reorganise text on screen to suit a purpose
Year 6		I know how to confidently choose the best application to demonstrate my learning. I know how to format text to suit a purpose. I know how to publish my documents online regularly and discuss the audience and purpose of my content.

Data Handling		
Year Group	National Curriculum Objectives	Knowledge Statements

EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	<p>I know how to identify a chart.</p> <p>I know how to sort physical objects, take a picture and discuss what I have done.</p> <p>I know how to present simple data on a digital device.</p>
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	<p>I know how to sort images or text into two or more categories on a digital device.</p> <p>I know how to collect data on a topic.</p> <p>I know how to create a tally chart and pictogram.</p> <p>I know how to record myself explaining what I have done and what it shows me.</p>
Year 2		<p>I know how to sort digital objects into a range of charts such as Venn diagrams, Carroll diagrams and bar charts using different apps and software.</p> <p>I know how to orally record myself explaining what the data shows me.</p> <p>I know how to create a branching database using questions</p>
Year 3	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.	<p>I know how to create my own sorting diagram and complete a data handling activity with it using images and text.</p> <p>I know how to start to input simple data into a spreadsheet.</p> <p>I know how to create a feelings chart exploring a story or character's feelings.</p>
Year 4		<p>I know how to create my own online multiple choice questionnaire.</p> <p>I know how to input data into a spreadsheet and export the data in a variety of ways: charts, bar charts, pie charts.</p> <p>I understand how data is collected.</p>
Year 5		<p>I know how to create and publish my own online questionnaire and analyse the results.</p> <p>I know how to use simple formulae to solve calculations including =sum and other statistical functions</p> <p>I know how to edit and format different cells in a spreadsheet.</p>
Year 6		<p>I know how to write spreadsheet formulas to solve more challenging maths problems.</p>

		I know how to create and publish my own online quiz with a range of media (images and video)
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Presentations, web design and ebook creation		
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	I know how to record my voice over a picture. I know how to create a simple digital collage. I know how to move and resize images with my fingers or mouse.
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	I know how to add labels to an image I know how to order images to create a simple storyboard. I know how to create a simple spider diagram. I know how to sequence a series of pictures to explain my understanding of a topic.
Year 2		I know how to add voice labels to an image. I know how to add a voice recording to a storyboard. I know how to add speech bubbles to an image to show what a character thinks. I know how to import images to a project from the web and camera roll
Year 3	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	I know how to create an interactive comic with sounds, formatted text and video. I know how to annotate an image with videos I know how to create a simple web page. I know how to design a simple app prototype. I know how to create a simple digital timeline/mindmap
Year 4		I know how to create an interactive quiz eBook introducing hyperlinks. I know how to create an eBook with text, images and sound.

	and information.	I know how to create a presentation demonstrating my understanding with a range of media. I know how to create a digital timeline/mindmap and include different media - sound and video.
Year 5		I know how to collaborate with peers using online tools, e.g. blogs, Google Drive I know how to create and export an interactive presentation including a variety of media, animations, transitions and other effects. I know how to create an interactive guide to an image by embedding digital content and publishing it online. I know how to create a web page and embed video.
Year 6		I know how to create a web site which includes a variety of media. I know how to design an app prototype that links multimedia pages together with hyperlinks. I know how to choose applications to communicate to a specific audience. I know how to evaluate my own content and consider ways to improve.

Animation		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They	I know how to animate a simple image to speak in role I know how to create a simple animation to tell a story including more than one character.

	select and use technology for particular purposes.	
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	I know how to add filters and stickers to enhance an animation of a character. I know how to create an animation to tell a story with more than one scene. I know how to add my own pictures to my story animation.
Year 2		I know how to create multiple animations of an image and edit these together. I know how to create a simple stop motion animation. I know how to explain how an animation/flip book works
Year 3	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.	I know how to create animations of faces to speak in roles with more life-like realistic outcomes. I know how to improve stop motion animation clips with techniques like onion skinning. I know how to use animation tools in presenting software to create simple animations.
Year 4		I know how to take multiple animations of a character I have created and edit them together for a longer video. I know how to use software to create a 3D animated story. I know how to use line drawing tools to create animations.
Year 5		I know how to record animations of different characters and edit them together to create an interview. I know how to add green screen effects to a stop motion animation. I know how to create flip book animation using digital drawings and export as a Gif or video
Year 6		I know how to mix animations and video recordings of myself to create video interviews. I know how to plan, script and create a 3D animation to explain a concept or tell a story. I know how to choose and create different types of animations to best

		explain my learning.
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Video Creation		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	<p>I know the difference between photography and video.</p> <p>I know how to record a short film using the camera</p> <p>I know how to record and play a film</p> <p>I know how to watch films back</p>
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	<p>I know how to record a film using the camera app.</p> <p>I know how to select images and record a voiceover.</p> <p>I know how to highlight and zoom into images as I record.</p>
Year 2		<p>I know how to write and record a script using a teleprompter tool.</p> <p>I know how to use tools to add effects to a video</p> <p>I know how to begin to use green screen techniques with support</p>
Year 3	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.	<p>I know how to sequence clips of mixed media in a timeline and record a voiceover</p> <p>I know how to trim and cut film clips and add titles and transitions</p> <p>I know how to independently create a green screen clip.</p> <p>I know how to create my own movie trailer.</p>
Year 4		<p>I know how to add music and sound effects to my films</p> <p>I know how to add animated titles and transitions</p> <p>I know how to add simple subtitles to a video clip.</p> <p>I know how to confidently use green screens by adding animated backgrounds.</p>
Year 5		<p>I know how to use cutaway and split screen tools in iMovie.</p>

		<p>I know how to evaluate and improve the best video tools to best explain my understanding.</p> <p>I know how to further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool.</p>
Year 6		<p>I know how to use the green screen masking tool with more than one character.</p> <p>I know how to use picture in picture tools in iMovie.</p> <p>I know how to add animated subtitles to my film to further enhance my creation.</p> <p>I know how to create videos using a range of media - green screen, animations, film and image.</p>

Photography and Digital Art		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	<p>I know how to take a photograph</p> <p>I know how to take a photograph and use it in an app</p> <p>I know how to use a painting app and explore the paint and brush tools</p>
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	<p>I know how to edit a photo with simple tools</p> <p>I know how to use a paint/drawing app to create a digital image</p> <p>I know how to begin to cut out an image to layer on another image.</p>
Year 2		<p>I know how to edit a photo (crop, filters, mark up etc)</p> <p>I know how to select and use tools to create digital imagery - controlling the pen and using the fill tool</p> <p>I know how to cut images with accuracy to layer on other images.</p>

Year 3	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.	I know how to confidently take and manipulate photos I know how to create a digital image using a range of tools, pens, brushes and effects I know how to create transparent images with Instant Alpha
Year 4		I know how to enhance digital images and photographs using crop, brightness, contrast & resize I know how to manipulate shapes to create digital art. I know how to draw a series of images and export as an animated GIF
Year 5		I know how to make a digital photo using camera settings I know how to enhance digital photos and images using crop, brightness and resize tools I know how to link and explain how to photoshop images and how this is used in the media
Year 6		I know how to edit a picture to remove items, add backgrounds, merge 2 photos I know how to evaluate and discuss images explaining effects and filters that have been used to enhance the media. I know how to use a 3D drawing app to create a realistic representation of world objects

Augmented Reality and Virtual Reality		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	I know how to scan a QR code. I know how to explore a 360 image. I know how to talk about AR objects in my class

Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	I know how to explore an interactive 360 image. I know how to scan a trigger image to begin a AR experience. I know how to pretend to interact with AR objects.
Year 2		I know how to draw my own 360 image and explore it in VR. I know how to bring objects into my surroundings using Augmented Reality. I know how to create my own QR code.
Year 3	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.	I know how to create my own digital 360 image and explore it in VR I know how to create my own images and bring it into my surroundings
Year 4		I know how to create my own 360 video. I know how to use the camera to create a 360 image. I know how to add multiple objects into my surroundings through AR to explain a concept.
Year 5		I know how to create an animated object and bring it into my surroundings through AR I know how to create an AR experience using objects I have created to explain a concept.
Year 6		I know how to create an interactive VR experience. I know how to create an interactive poster using AR I know how to explain how VR and AR works.

Sound		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places	I know how to record sounds with different resources I know how to find ways to change your voice (tube, tin can, shouting to

	such as homes and schools. They select and use technology for particular purposes.	create an echo) I know how to record sounds/voices in storytelling and explanations
Year 1	Children use technology purposefully to create, organise, store, manipulate and retrieve digital content	I know how to create a sequence of sounds (instruments, apps/software) I know how to explore short and long sounds. I know how to record my voice and add different effects.
Year 2		I know how to create a musical composition using software I know how to record my own sound effects. I know how to record my voice over a compositions to perform a song.
Year 3	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.	I know how to create and edit purposeful compositions using music software to create mood or a certain style I know how to experiment with live loops to create a song.
Year 4		I know how to edit sound effects for a purpose. I know how to create a simple four chord song following the correct rhythm. I know how to record a radio broadcast or audiobook.
Year 5		I know how to add voice over and edit sound clips (volume, pitch, fade, effect) to create a podcast. I know how to create a remix of a popular song.
Year 6		I know how to add voice over and edit sound clips (volume, pitch, fade, effect) to use in a film or radio broadcast (podcast) I know how to compose a soundtrack that can be added to a film project.

Computational Thinking		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	<p>I begin to understand an algorithm is a sequence of instructions or set of rules to get things done. (Algorithms)</p> <p>I can follow a simple algorithm by responding to oral instructions. (Algorithms)</p> <p>I can begin to make my own simple algorithms by sequencing actions. (Algorithms)</p> <p>I can start to explain my thought process and justify my decisions. (Logical reasoning)</p>
Year 1	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	<p>I understand what algorithms are</p> <p>I know how to write simple algorithms</p> <p>I understand the sequence of algorithms is important</p> <p>I know how to debug simple algorithms</p>
Year 2		<p>I know how to write algorithms for everyday tasks</p> <p>I know how to use logical reasoning to predict the outcome of algorithms</p> <p>I understand decomposition is breaking objects/processes down</p> <p>I know how to debug algorithms</p>
Year 3	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	<p>I know how to create algorithms for my programming projects I know how to decompose projects (such as an animation) into steps to create an algorithm</p> <p>I understand abstraction is focusing on important information</p> <p>I know how to identify patterns in an algorithm</p>
Year 4		<p>I know how to use abstraction to focus on what's important in my design</p> <p>I know how to write more precise algorithms for use when programming</p> <p>I know how to use simple selection and repetition in algorithms</p> <p>I know how to use logical reasoning to detect and correct errors in programs</p>

Year 5	<p>input and output</p> <p>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>	<p>I know how to solve problems by decomposing them into smaller parts</p> <p>I know how to use selection in algorithms</p> <p>I know how to use logical reasoning to explain how a variety of algorithms work</p> <p>I know how to evaluate the effectiveness of algorithms</p>
Year 6	<p>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</p>	<p>I know how to decompose a design or code to focus on specific parts</p> <p>I know how to use abstraction to hide complexity in my design or code</p> <p>I know how to recognise and make use of patterns in my design and code</p> <p>I know how to critically evaluate my work and suggest improvements</p>

Coding and Programming		
Year Group	National Curriculum Objectives	Knowledge Statements
EYFS	<p>Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p>	<p>I can learn how digital toys and apps work through exploration (Tinkering)</p> <p>I can input more than one command into a programmable toy or simple app</p> <p>I can input a sequence of commands into a programmable toy or simple app</p> <p>I fix things through trial and error (Debugging)</p> <p>I can fix things and explain my approach (Debugging)</p>
Year 1	<p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by</p>	<p>I know how to create a simple program on a digital device e.g. Bee Bot or tablet</p> <p>I know how to use sequence in programs</p> <p>I know how to locate and fix bugs in my program</p>

Year 2	<p>following precise and unambiguous instructions create and debug simple programs use logical reasoning to predict the behaviour of simple programs</p>	<p>I understand programs follow precise instructions I know how to create programs using different digital devices E.g. Bee Bot or ScratchJr on a tablet I know how to debug programs of increasing complexity I know how to use logical reasoning to predict the outcome of simple programs</p>
Year 3	<p>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p>	<p>I know how to design a program I know how to create a program using a design I know how to create a sequence of code I know how to work with a variety of inputs and outputs I know how to evaluate my program</p>
Year 4	<p>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p>	<p>I know how to use repetition in programs I know how to use simple selection in programs I know how to work with a variety of inputs and outputs I know how to use logical reasoning to systematically detect and correct errors in programs</p>
Year 5	<p>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p>	<p>I know how to create programs by decomposing them into smaller parts I know how to use a variety of selection commands in programs I know how to use conditions in repetition commands I know how to work with variables I know how to create programs that control or simulate physical systems I know how to evaluate my work and identify errors</p>
Year 6	<p>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</p>	<p>I know how to use a range of sequence, selection and repetition commands to implement my design I know how to identify the need for, and work with, variables I know how to create procedures to hide complexity in programs I know how to critically evaluate my work and suggest improvements</p>

Computer Networks (KS2 only)		
Year Group	National Curriculum Objectives	Knowledge Statements
Year 3	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	I understand that the computers in a school are connected together in a network I understand why computers are networked
Year 4		I understand that servers on the Internet are located across the planet I understand the difference between the Internet and WWW I understand how web pages are viewed across the internet
Year 5		I know how to use search technologies effectively I understand that web spiders index the web for search engines I appreciate how pages are ranked in a search engine
Year 6		I understand what HTML is and recognize HTML tags I know a range of HTML tags and can remix a web page I know how to create a webpage using HTML