

# Cambridgeshire Progression in Computing Capability

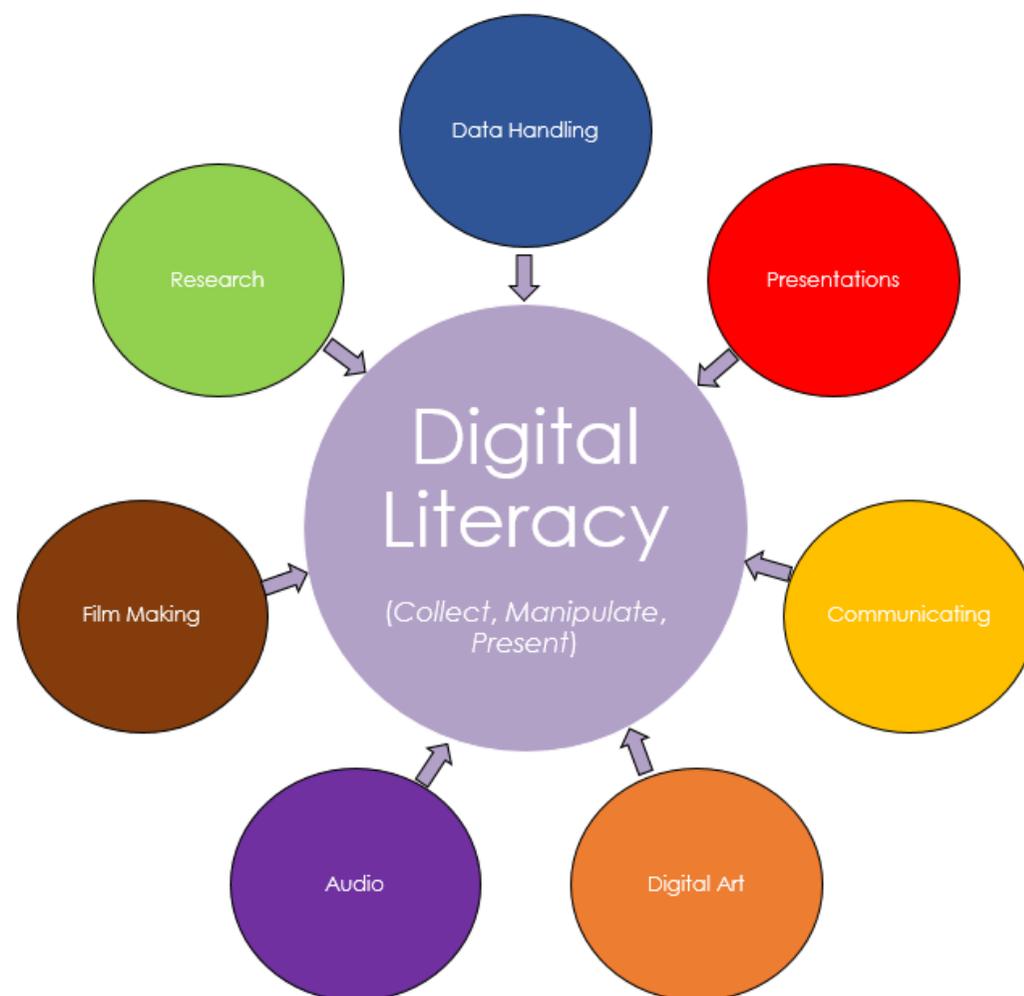
## Digital Literacy:

### Theme Overview

Digital Literacy is the ability to effectively and critically navigate, find, evaluate, summarise, use, create and communicate information using a range of digital technologies. It deals with the appropriate use of technology generated words, images, sounds and motion. Developing digital literacy is increasingly important because it supports learners to be confident and competent in their use of technology in a wide variety of contexts. The inter-related components of digital literacy can and should be developed alongside subject specific knowledge and understanding.

It may be useful to think of Digital Literacy as made up of several, intertwining elements, with aspects of collecting and manipulating data and presenting information running throughout.

The diagram opposite shows some, though probably not all, of the elements which contribute to developing pupils' Digital Literacy capability. The remainder of this document is designed to support you in developing a progression in Digital Literacy Capability through the primary phase.



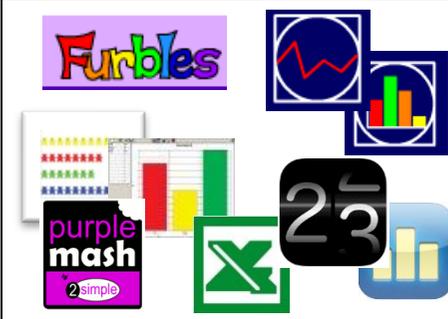
# Cambridgeshire Progression in Computing Capability

Early Capability		Middle Capability		Later Capability		Suggested Resources (visit <a href="http://www.ccc-computing.org.uk">www.ccc-computing.org.uk</a> for more details)	
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
National Curriculum	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. 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>The 'suggested resources' in this document are designed to support you in choosing and using software and peripheral hardware to support the teaching of the Digital Literacy elements of the Computing Curriculum. Use this column to review, supplement or rationalise existing resources.</p> <p>Initially you may not be able to afford all the resources you need and so a starting point should be to audit existing resources in relation to your teaching requirements for the first year and create a 2 or 3 year resourcing plan for your school.</p> <p>If you don't recognise the icons below, then download a digital version with active links from: <a href="http://www.ccc-computing.org.uk">www.ccc-computing.org.uk</a></p> <p>NB –This document simply reflects <b>some</b> of the resources we know are readily available in schools already or are free to use and is not an endorsement by us.</p>
Cambridgeshire Capability Statements	<p>Pupils increasingly use a range of technology to enquire with purpose, accessing and creating digital content such as still and moving images, video, audio and text.</p> <p>With appropriate levels of support, pupils collect data (e.g. numerical, research facts etc.) which they are able to retrieve, store and manipulate. They can present and communicate their learning to others in a variety of ways.</p> <p>With support, pupils are beginning to access and retrieve online content, making appropriate choices to achieve specific goals.</p>		<p>Pupils are confident and creative users of technology. They are beginning to make informed choices about the appropriateness of digital content they access and create, using an increasing range of digital resources and devices.</p> <p>Pupils identify, collect and manipulate different types of data (e.g. numerical data from science experiments, words, still and moving images etc.) which they present as information, showing a greater awareness of purpose and audience.</p> <p>Pupils become more discerning in their choice of search technology to accomplish specific goals. They understand the need for efficiency when conducting searches, choosing keywords carefully.</p>		<p>Pupils are confident, capable and creative users of technology, selecting and making effective use of digital resources and devices for purpose and effect. They create programs, systems and digital content, thinking carefully about aesthetics, functionality and impact on the user.</p> <p>They identify, collect and analyse different types of data (e.g. Numerical, words, images, video etc.) which they manipulate and re-present as information for a variety of audiences and purposes.</p> <p>Pupils are discerning in evaluating digital content. They use search technologies effectively to respond to enquiries and support their learning.</p>		
Research	<p>Pupils <b>explore</b> and <b>navigate</b> around adult chosen / age appropriate <b>website</b> which includes text / images / sounds / video. <b>Relate</b> what they have found out.</p> <p>They begin to conduct <b>specific key word searches</b> using a <b>child friendly search engine</b> to <b>locate exact information</b> in text / images / sounds / video with the intention of <b>answering simple / closed questions</b>.</p> <p>For example, pupils <b>listen to stories using the CBeebies site</b> or use <b>BBC Bitesize to learn how computers have changed over time</b>.</p>		<p>Pupils can <b>navigate with purpose</b> a small, <b>chosen</b> collection of age / interest <b>appropriate texts and websites</b> to <b>read, discover</b> and follow widening <b>lines of enquiry</b>.</p> <p><b>They conduct searches</b> and <b>compare results</b> from <b>child friendly search engines</b> to <b>locate precise facts</b> and demonstrate <b>comprehension</b>. They <b>identify</b> suitable <b>key words</b> and <b>phrases</b> to use in own lines of enquiry.</p> <p>For example, pupils <b>research the Solar System</b> with minimal adult input and <b>share their learning with others</b>, or use <b>Kidrex</b> or <b>Topmarks</b> to answer questions they have raised about the Romans.</p>		<p>Pupils <b>select</b> suitable <b>search terms</b> and use to <b>follow own areas of interest</b> filtering to show, access and gather information from a <b>range of media sources</b>.</p> <p>They start to <b>cross-reference</b> information. They <b>question</b> and seek to <b>verify</b> and determine accuracy including <b>identification of source</b>.</p> <p>They create fact-files on each of Henry VIII's wives, <b>agreeing the information they need in advance</b> and then <b>using a variety of sources</b> (including text, audio, video and books) to <b>track</b> that information down and <b>check its validity</b>.</p>		



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Data Handling (taken from National Curriculum for Maths)	Interpret and construct <b>simple pictograms, tally charts, block diagrams</b> and <b>simple tables</b> . Ask and answer simple questions by counting the number of objects in each category and <b>sorting</b> the categories by quantity. Ask and answer questions about <b>totalling and comparing categorical data</b> .		Interpret and present data using <b>bar charts, pictograms</b> and <b>tables</b> . Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in <b>scaled bar charts</b> and <b>pictograms</b> and <b>tables</b> .	Interpret and present <b>discrete and continuous data</b> using appropriate graphical methods, including <b>bar charts</b> and <b>time graphs</b> . Solve comparison, sum and difference problems using information presented in <b>bar charts, pictograms, tables</b> and other <b>graphs</b> .	Solve comparison, sum and difference problems using information presented in a <b>line graph</b> . Complete, read and interpret information in <b>tables, including timetables</b> .	Interpret and construct <b>pie charts</b> and <b>line graphs</b> and use these to solve problems. Calculate and <b>interpret the mean as an average</b> .	
	Presentations	Pupils use tools such as Microsoft's Photostory3, 2Publish, and apps such as Puppet Pals and Book Creator (often selected by an adult) to <b>mix together different media</b> (such as text and images) to <b>present what they have learned</b> and <b>plan and share their ideas with others</b> .  For example, they use <a href="#">Photostory3</a> to <b>create a photo slideshow of a recent school trip</b> – adding <b>text or sound to their photos</b> and choosing transitions with an adult. They take their tablets with them on a school trip, <b>recording images and sounds</b> and then use <a href="#">Book Creator</a> pages for a class book back in the classroom.		When presenting what they have learned, pupils <b>use a wider range of tools</b> : comic strips, desktop publishers, animation tools etc. to <b>combine text, images, video and audio</b> .  For example, they use <a href="#">Book Creator</a> or <a href="#">PowerPoint</a> to <b>make an e-book about the Ancient Romans, including their own artwork, text and a sound recording</b> of an interview with a Roman soldier. They use <a href="#">Strip Designer</a> or <a href="#">Comic Life</a> to <b>record the stages in a science experiment</b> or <b>open-ended maths investigation</b> and then use this to write their recount of the experience.	They now <b>use digital tools much more confidently, choosing just the right tool for the job</b> .  They can, for example, create a range of content using tools such as <a href="#">iMovie</a> and <a href="#">Audacity</a> and then <b>combine content</b> using Augmented reality tools such as <a href="#">Aurasma</a> or <a href="#">Zappar</a> . They <b>create a village or school trail</b> or use these tools to <b>bring a historical event to life</b> .  They can <b>confidently move between different apps and programs</b> to create content.		
		Communicating (Must be linked with work on E-safety)	Pupils <b>send simple messages</b> to others in their class / year group through a monitored messaging tool. They <b>actively participate</b> when the teacher models communicating through, for example, <b>video conferencing tools</b> such as E2BN's Flash meeting.  Pupils <b>begin to use messaging tools to ask questions more purposefully</b> , making sure messages are clear and appropriate. They know what to do if something they receive upsets them.  For example, they <b>send messages to Cinderella</b> to help her to plan an anniversary party, or <b>to the 3 little pigs</b> to tell them what to do about the wolf.		Pupils <b>widen the range of messaging tools they use</b> to include, for example, <b>discussion forums</b> and <b>blogs</b> . They write about something exciting or interesting which has happened recently ( <b>such as a current news event or a visitor into school</b> ), keeping personal information private.  Pupils <b>maintain a blog more frequently</b> , perhaps to <b>present their learning</b> or share something they're personally interested in such as a favourite sport, pet or TV programme. They <b>comment appropriately on other people's blogs</b> and contribute to class discussions via <b>forums / noticeboards / collaborative tools</b> .		

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Audio	<p>Pupils learn how to <b>make simple audio equipment work</b>. They begin to <b>listen to and learn from sounds</b> embedded in audio books, websites, sound buttons and other tools.</p> <p>Pupils <b>make their own recordings</b> using digital devices (microphones, tablets, talking postcards etc.) and <b>use these recordings purposefully</b>.</p> <p>For example, they <b>add a voiceover</b> to a Photostory project, e-book or animated film about a school visit or <b>make music</b> using apps such as <a href="#">Loopseque Kids</a> or some of the tools in <a href="#">Garageband</a>.</p>	<p>Pupils <b>download, create and record sounds</b> and begin to <b>combine, edit and present</b> them. This includes learning to, for example, <b>delete unwanted sections of audio</b>, or <b>combine multiple recordings</b> to create one longer piece. They <b>begin to understand the impact</b> different types of music can have on an audience and think about what effect they want to achieve when recording or downloading music.</p> <p>For example, they use everyday objects to <b>create sound effects for a 'radio play'</b> or <b>record a percussion accompaniment for a short animation</b>. They learn to record and edit these in programs such as <a href="#">Audacity</a> or <a href="#">Wavepad</a> to create a finished product.</p>	<p>Pupils <b>confidently choose when to use audio to enhance their work or present their learning</b>. They learn how to <b>digitally manipulate audio</b> to create a desired effect, including <b>editing unwanted sections of a recording, copying and pasting sections and digitally manipulating volume</b>. They use a selection of apps / tools to <b>create and record their own music tracks and embed them</b> into other projects such as presentations or films.</p> <p>For example, pupils use <a href="#">Audacity</a> to <b>combine voice and audio</b> when creating a 'river tour' showing what they have learned about the <b>structure of rivers</b>, or use <a href="#">Garageband</a> to <b>create music to accompany a silent 'scary' film, thinking carefully about the impact on the audience</b>.</p>			
	<p>Pupils progress from the approach in EYFS where they will be encouraged to <b>discover and explore what their fingers can do on, for example, a tablet</b>, showing enjoyment and ability to talk about what they have done.</p> <p>Pupils <b>experiment</b> with how to create a range of effects - <b>shades, patterns and results</b> using different <b>eTools</b>.</p>	<p>Pupils <b>demonstrate</b> an expanding repertoire of experiments with digital tools exploring <b>shade, shape, pattern, screen effects, marks and lines</b>.</p> <p>They can use what they have learned to <b>respond to specific tasks</b>, such as creating firework picture.</p> <p>They make effective use of <b>known techniques to create an intended artefact, reflecting on and refining</b> their work as appropriate.</p>	<p>Pupils <b>plan and develop</b>, in a <b>sustained</b> way, ideas with <b>shade, shape, pattern, screen effects, marks and lines</b> into some finished works of art.</p> <p>Show the <b>influence of screen drafts/ jottings to tangible</b> works of art.</p> <p>Pupils can <b>explain what works well digitally</b>, what doesn't and how technology can support artistic development.</p>			
<b>On occasion, and where possible, mirror screen based experimentations with tangible attempts to replicate creations.</b>						
Film Making	<p>With adult support, <b>pupils create films from still photos</b> using software such as <a href="#">PhotoStory3</a>, choosing <b>preferred transition</b> and similar <b>basic visual effects</b>.</p> <p>They <b>contribute to discussions</b> about the <b>choice of audio</b> to accompany a film and can talk about <b>how different pieces of music make them feel</b>.</p> <p>They <b>use basic film making techniques</b> to retell familiar stories or those developed as part of a class / group. This includes both <b>live action filming</b> and <b>stop-motion animation</b>.</p>	<p>Pupils begin to understand the <b>grammar of film</b> such as how different <b>camera distances and angles can have different impacts on the audience</b>.</p> <p>They apply what they have learned about the <b>impact on the audience of different types of music or sound effects</b> and can digitally <b>create, record and manipulate</b> audio accordingly.</p> <p>Pupils can <b>edit sections of film (live or animated) together</b>, trimming and adding visual effects or transitions to create a desired effect.</p>	<p>Pupils <b>combine a range of known film making techniques</b> confidently and creatively to achieve a specific goal.</p> <p>They think carefully about the <b>intended effect</b> of their choices on their <b>audience</b> and reflect on whether the desired effect has been achieved, <b>refining their work</b> where appropriate.</p> <p>They <b>use editing techniques creatively</b> and can confidently use a combination of <b>visual and audio effects</b> in their films</p>			