

ICT curriculum Map

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Year 5	Notes	Possible outcomes and activities
Objectives		
<p><u>Multimedia and Word processing</u> <u>Comp KS2 6 (7)</u></p> <ol style="list-style-type: none"> 1. Evaluate a range of electronic multimedia, and understand the implications appropriate to their given task e.g. key features of layout and design 2. Plan structure and layout of presentation 3. evaluate and select suitable information and media from a range of electronic resources 4. to use a multimedia authoring program to organise, refine and present information for a specific audience 5. Create a range of hyperlinks to produce a non-linear presentation 6. Through peer assessment and self-evaluation children should evaluate their design and make suitable improvements <p>When word processing children should:</p> <ol style="list-style-type: none"> 1. format text to indicate relative importance. 2. justify text where appropriate. 3. cut and paste between applications. 4. delete/insert and replace text to improve 	<p>Suggested Resources</p> <p>Multimedia Authoring packages: Powerpoint – Create slides and add pictures, text, WordArt, Video</p> <p>Word processing packages: Word – Word processor</p> <p>Photostory 3 (as whole class) - combines photos into a slideshow and allows sound, voice commentary and titles to be added.</p> <p>Touch Typing Course – Create links on Fronter which included BBC Dance Mat Typing (www.bbc.co.uk/schools/typing)</p>	<p>Plan a presentation, combine from a range of sources, organise and refine to suit purpose and audience</p> <p>Literacy – Newspaper report linked to the topic</p> <p>Talks – create a non-linear presentation for a talk.</p> <p>Topic – create a presentation about a focus location- Create an interactive map by linking spots with hyperlinks to information pages.</p>

<p>clarity and mood.</p> <ol style="list-style-type: none"> 5. make corrections using a range of tools (eg spell check, find and replace) 6. develop confidence using both hands when typing 		
<p><u>Music and Sound</u> <u>Comp KS2 6 (7)</u></p> <ol style="list-style-type: none"> 1. record sounds using sound editing software 2. collect sounds from a variety of sources (online, digital sound recorder) 3. import sounds into sound editing software 4. layer and edit sounds 5. plan, create and refine either a radio programme or play with sound effects or a sonic postcard 6. Save as a web compatible format for uploading and podcasting; share online 	<p>Suggested Resources</p> <p>EasiSpeak Microphone - Simple microphones which allow recording of sounds</p> <p>2 Simple Music Toolkit - A range of music related programs for adding sounds, creating phrases etc...</p> <p>Podium – Simple sound editing program in which sound clips can be added</p> <p>Audactiy – Sound editing program with more features than Podium. Also allows multiple layers of sound</p> <p>Online sources of sounds: www.findsounds.com; Audio Network http://audio.lgfl.org.uk ; Microsoft ClipArt Online</p>	<p>Create radio programme or sonic postcard by combining sounds</p> <p>Music – create music to go with a song that they've written and record it being performed using Audacity.</p> <p>Topic – use Audacity to record a news report about events in topic</p> <p>Topic- Add sounds to Fronter based on topic – children could talk about their work.</p> <p>Topic- Create a sound map. Locate and add sounds to different locations on an Indian map.</p>
<p><u>Digital Imagery</u> <u>Comp KS2 6 (7)</u></p> <ol style="list-style-type: none"> 1. To use different filming techniques and camera angles e.g. zoom, panning, wide shot etc to create different mood/perspective 2. Plan a video or animation by drawing a storyboard 3. Use a range of sound effects, music and voice-overs to create mood/ atmosphere 	<p>Suggested Resources</p> <p>Digital camera -</p> <p>Flip Cameras – Simple filming device which allows for videos to be quickly and easily played on screen</p> <p>Windows Movie Maker - Video editing software which allows</p> <p>2Animate – Simple animation program</p> <p>Photostory 3 (as whole class) - combines photos into a slideshow and allows sound, voice commentary and titles to be added.</p>	<p>Plan a storyboard for a video or animation. Create, edit and refine.</p> <p>Literacy – Create scenes with multiple camera angles and shot types</p> <p>Topic – Recode a piece of</p>

<ol style="list-style-type: none"> 4. Select and edit sounds, text, movie clips and other effects to suit purpose and audience 5. Evaluate and improve work with a view to purpose and audience 		<p>drama and edit it to make it appear to be from the past e.g. use green screen and add effects in Movie Maker.</p>
<p><u>Modelling and Simulation</u> Comp KS2 6 (7)</p> <ol style="list-style-type: none"> 1. to change variables in a spreadsheet to solve problems 2. to make predictions and changes and check results. 3. to enter formulae for the four operations (+-x/) into a spreadsheet 4. to use 'SUM' to calculate the total of a set of numbers in a range of cells 5. to change data in a spreadsheet to answer 'what if...?' questions and check predictions 6. Using a simple layout demonstrated by the teacher, create a simple spreadsheet model and use it to solve problems 	<p>Suggested Resources Spreadsheet program e.g. Excel – Start to use as a spreadsheet; adding formulas.</p>	<p>Design and use a spreadsheet to solve a problem by changing variables.</p> <p>Answer 'what if questions'</p> <p>Create spreadsheet for business plan using formulas → link to the Victorian Apprentice Task</p>
<p><u>Programming</u> Comp KS2 1,2,3 (7) Unit 1: Espresso Coding</p> <ol style="list-style-type: none"> 1. Navigate the Espresso Coding programming environment. 2. to set values in code to program the speed of an object 3. to change an object's direction and heading to create a driving game 4. to change an object's direction and heading to create a sailing game 5. to change and object's co-ordinates to move it around. 6. to set friction to effect the speed and movement of a car in a driving game 7. to make and use random numbers in your apps 	<p>Espresso Coding</p> <p>Login: student21791 Password: saintjoseph</p>	<p>Complete units on Espresso Coding</p> <p>Create own apps/games</p> <p>City Learning Centre Visit</p>

<p><u>Programming</u> Comp KS2 1,2,3 (7)</p> <p>Unit 2: Scratch: Creating more challenging games</p> <ol style="list-style-type: none"> 1. Design their own game including sprites, backgrounds, scoring and/or timers. 2. Their game uses conditional statements, loops, variables and broadcast messages. 3. Their game finishes if the player wins or loses and the player knows if they have won or lost. 4. Evaluate the effectiveness of their game and debug if required. 	<p>Scratch activity cards and tutorials at http://scratch.mit.edu/help/</p> <p>Blog by Simon Haughton with lots of ideas and lesson plans http://www.simonhaughton.co.uk/scratch-programming/</p> <p>*Code Kingdom – introduced Spring Term 2015</p>	<p>Create games with story sections and levels. Link to topics or retelling a story in Literacy e.g. find ingredients to make an Indian recipe or guide a story character through different problems in a story.</p> <p>City Learning Centre Visit</p>
<p><u>Communication and Collaboration</u> Comp KS2 4, 6 (7)</p> <p>Unit 1: Internet research</p> <ol style="list-style-type: none"> 1. Use advanced search functions in Google, e.g. quotations. 2. Understand websites such as Wikipedia are made by users (link to E-Safety) 3. Use strategies to check the reliability of information, e.g. cross checking with books. 4. Use their knowledge of domain names to aid their judgment of the validity of websites. 		<p>Use research skills to find out about Africa or an African country</p> <p>Use research skills to book a holiday to an African country</p>
<p><u>Communication and Collaboration</u> Comp KS2 4, 6 (7)</p> <p>Unit 1: Cloud computing</p> <ol style="list-style-type: none"> 1. Understand files may be saved off their device in 'clouds' (servers). 2. Upload/download a file to the cloud on different devices. 3. Understand about syncing files using cloud computing folders. 	<p>Watch video about cloud computing. It was created in 2009 so many of the things mentioned are available now but video gives a general explanation http://safeshare.tv/w/xdvfyPeXOZ</p>	<p>Save work onto Fronter or cloud such as Google Drive.</p> <p>Open work from cloud, edit and then resave back to the cloud.</p>

<p><u>Handling Data</u> Comp KS2 6 (7) Data logging</p> <ol style="list-style-type: none"> 1. Plan an investigation using data logging technology 2. Make predictions for this investigation and understand how to make it a fair test 3. Carry out the investigation, ensuring accuracy 4. Interpret results, draw conclusions and analyse the effectiveness of the technology 	<p>Suggested Resources</p> <p>Data logger – Digitally monitors temperatures, sound and light levels</p> <p>Scratch – This is a free piece of software that allows programming of games and animations. More details and help videos can be found at link</p>	<p>Plan, carry out and evaluate an investigation using data logging technology. Create and refine a sequence of instructions to control events, using programmed procedures.</p> <p>Maths – use data loggers and sensors to collect data as part of an investigation.</p> <p>Science – use data loggers to record data for an investigation.</p>
<p><u>E-Safety</u> Comp KS2 7 Online Research</p> <ol style="list-style-type: none"> 1. When using the Internet to research their work, children recognise the need to ask appropriate questions to find appropriate answers. 2. Children know that good online research involved interpreting information, rather than copying. 3. Children are able to carry out more refined web searches by using key words. 4. Children evaluate search results and refine as necessary for the best results. 5. Know that information found on websites may be inaccurate or biased and to check the validity of a website. 6. Develop strategies to ignore or cancel unsolicited advertising (pop-ups, banners, videos or audio). 	<p>Children’s search engines; www.kidsclick.org http://kids.yahoo.com/ www.askforkids.com</p> <p>ThinkUKnow Cybercafe Lesson 5, “Responsible use of the Internet”</p> <p>For copyright free pictures and music; NEN Gallery Audio Network</p> <p>SMART Rule - Reliable</p>	<p>This could be taught as a separate Life Skills lesson or as part of another ICT lesson.</p> <p>Refer to the E-SMART rules.</p>

<p>7. Children use websites where resources can be downloaded without infringing copyright. 8. Acknowledge sources used in their work.</p>		
<p><u>E-Safety</u> <u>Comp KS2 7</u> Communication & Collaboration 1. Be aware of the different forms of technology that can be used to access the Internet and communicate with others.</p>	<p>ThinkUKnow Cybercafe Lessons: 6 – chatting with care 7 – Using text and picture messaging 8 – behaving responsibly www.thinkuknow.co.uk/8_10/</p> <p>Captain Kara and Winston's SMART Adventure (KnowITall), chapter 3, "What Should you keep safe?"</p>	<p>This could be taught as a separate Life Skills lesson or as part of another ICT lesson.</p> <p>Refer to the E-SMART rules.</p>
<p><u>E-Safety</u> <u>Comp KS2 7</u> E-Awareness 1. Children recognise their own right to be protected from the inappropriate use of technology by others and the need to respect the rights of other users..</p>	<p>KS 2 Safer Internet Day Assembly video. http://www.thinkuknow.co.uk/teachers/</p> <p>School Internet Acceptable Use Policy</p> <p>"Where's Klaus" video from CEOPS (teachers will need to register at the ThinkUKnow website in order to download this video).</p> <p>SMART Rules – Tell, Messages</p>	<p>This could be taught as a separate Life Skills lesson or as part of another ICT lesson.</p> <p>Refer to the E-SMART rules.</p>