

Year 5 Computing Overview

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| YEAR 5 | Text & Multimedia | Programming & Control | Communication & Collaboration | Sound | Digital Media (Graphics & Video) | Digital Research |
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Key stage 2

Pupils should be taught to:

- 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.

Please see below for medium term planning ideas

Year 5 Computing- Autumn 1
'Text & Multimedia'

| COMPUTING ELEMENT | LEARNING OBJECTIVES/SKILLS | SOFTWARE TOOLS | CROSS-CURRICULAR LINKS/NOTES |
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| <p><u>Multimedia & Word Processing</u> <u>National Curriculum</u></p> <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> I can evaluate a range of electronic multimedia, and understand the implications appropriate to a given task. (e.g. key features of layout and design) I can plan the structure and layout of presentation. I can evaluate and select suitable information and media from a range of electronic resources. I can use a multimedia authoring program to organise, refine and present information for a specific audience I can create a range of hyperlinks to produce a non-linear presentation. Through peer assessment and self evaluation, I can evaluate my design and make suitable improvements. <p>When word processing children should:</p> <ul style="list-style-type: none"> I can format text to indicate relative importance. I can justify text where appropriate. I can cut and paste between applications. I can delete/insert and replace text to improve clarity and mood. I can make corrections using a range of tools (eg spell check, find and replace) I can develop confidence using both hands when typing. | <p>Multimedia Packages: Powerpoint</p> <ul style="list-style-type: none"> Create slides and add pictures, text, WordArt, Video. <p>Word processing Packages:</p> <ul style="list-style-type: none"> Microsoft Word <p>Microsoft Photostory(as whole class)</p> <ul style="list-style-type: none"> Combines photos into a slideshow and allows sound, voice commentary and titles to be added. <p>Touch Typing Course:</p> <ul style="list-style-type: none"> BBC Dance Mat Typing (www.bbc.co.uk/schools/typing) 2type <p>Teachers Resources: LGFL Audio Network (bank of sounds).</p> | <p><u>CURRICULUM LINKS</u></p> <p>ENGLISH</p> <ul style="list-style-type: none"> Plan a presentation, combine from a range of sources, organise and refine to suit purpose and audience. Use word processing skills to support the writing of different genres such as; narratives, poetry and non-fiction. |

Year 5 Computing- Autumn 2 'Programming & Control'

| COMPUTING ELEMENT | LEARNING OBJECTIVES/SKILLS | HARDWARE/SOFTWARE | CROSS-CURRICULAR LINKS/NOTES |
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| <p style="text-align: center;"><u>Programming</u> <u>National Curriculum</u></p> <ul style="list-style-type: none"> 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 | <p style="text-align: center;"><u>Introduction to 'Programming & Control'</u></p> <ul style="list-style-type: none"> I know that an 'algorithm' is a specific set of instructions used to control a function. I can follow a simple algorithm. I know that algorithms have to be accurate in order to work properly I know that software relies on codes to run and that a range of different coding languages exist. <i>(eg. look at the source code of some websites)</i> I can see that movements on screen are translated into a code/algorithm. I can make predictions when creating sequences of commands. I can create and test my own algorithm. <p style="text-align: center;"><u>Project – 3-4 lessons</u></p> <ul style="list-style-type: none"> I can use visual programming software (e.g Scratch) to plan, design and create basic software for a target audience. I can create a piece of basic software that interacts with external controllers (eg. a keyboard or mouse) I can test and evaluate my piece of software with my target audience. I can 'debug' (fix/change) a simple algorithm. | <p>Code-it http://code-it.co.uk <i>Ideas for teachers.</i></p> <p>Internet Explorer (look at source codes)</p> <p>Code Monster Gets kids excited about programming. It is a combination of a game and tutorial where kids experiment with learning code. http://www.crunchzilla.com/code-monster</p> <p>Codecademy The easiest way to learn how to code. It's interactive, fun and you can do it with your friends. http://www.codecademy.com</p> <p>Scratch(Project software) Children can drag pre-programmed instructions to make a sequence for the sprite to follow. <i>See 'Getting started with Scartch' document. Pupils could create a 'maze' game for lower down the school that is tested and evaluated.</i></p> | <p style="text-align: center;"><u>CURRICULUM LINKS</u></p> <p style="background-color: #00FF00; display: inline-block; padding: 2px;">ENGLISH</p> <ul style="list-style-type: none"> Accurately giving oral instructions, written instructions and understanding instructions. <p style="background-color: #0000FF; color: white; display: inline-block; padding: 2px;">MATHS</p> <ul style="list-style-type: none"> Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Make a sprite move in different angles. |

Year 5 Computing- Spring 1
'Communication & Collaboration'

| COMPUTING ELEMENT | LEARNING OBJECTIVES/SKILLS | HARDWARE/SOFTWARE | CROSS-CURRICULAR LINKS/NOTES |
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| <p><u>Communication & Collaboration</u> <u>National Curriculum</u></p> <ul style="list-style-type: none"> 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | <p><u>Blogging</u></p> <ul style="list-style-type: none"> I know that computers can allow us to communicate with others. I am aware of the dangers that electronic communication holds. (e-safety) I know what a blog is. I can publish my files to a global audience. Eg. blog, podcast. I know that blog posts have to be sensored. I can view a blog and make appropriate comments. <p><u>Email</u></p> <ul style="list-style-type: none"> I can share and exchange my ideas using e-mail and electronic communication inside the school environment. I can create a group or distribution list of contacts from an address book. I can learn how to use the cc and bcc facilities when sending an e-mail and discuss when these should be used. I can send 'group' e-mails and be aware of the benefits and risks in 'replying to all'. I can add email addresses to a class address book. | <p><u>MUST USE CHROME</u></p> <p><u>Beaconsfield Primary School Blog</u> Access through My.uso.im J2webby</p> <p><u>J2e</u> Accessible through my.uso.im (Only work produced in these programs can be blogged)</p> <p><u>Londonmail</u> Accessible through London Grid for Learning.</p> | <p><u>CURRICULUM LINKS</u></p> <p>ENGLISH</p> <ul style="list-style-type: none"> <i>Blogging is great for promoting writing.</i> Use the school blog to publish stories, poems, written arguments, debates, speeches etc. Write emails appropriate for different audiences. <p>MATHS</p> <ul style="list-style-type: none"> Creating maths problems for peers to solve. <p>SCIENCE</p> <ul style="list-style-type: none"> Discussing/providing facts about Forces. <p>HISTORY/GEOGRAPHY Sharing research and information about the topics covered.</p> |

**Year 5 Computing– Spring 2
'Sound'**

| COMPUTING ELEMENT | LEARNING OBJECTIVES/SKILLS | HARDWARE/SOFTWARE | CROSS-CURRICULAR LINKS/NOTES |
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| <p style="text-align: center;"><u>Sound</u> <u>National Curriculum</u></p> <ul style="list-style-type: none"> ▪ 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><u>Finding Sounds/Sound Formats</u> <u>1-2 Sessions</u></p> <ul style="list-style-type: none"> • I can find sounds online and download them for use in other software. • I understand that some sounds & most music is subject to copyright, and apply this to their work. • I understand that sound files are of various formats and that some are more appropriate than others depending on intended use and device used. (.mp3 .wav .aiff .wma) <p><u>Using recorded sounds and sound samples</u> <u>2-3 Sessions</u></p> <ul style="list-style-type: none"> • I can use hardware to record my own sound effects/vocals. • I can use recorded sounds in other software to combine with text, images etc. • I can use recorded sounds in other software to combine with text, images etc • I understand how sounds and music can affect an audience and know when it is appropriate to use sounds to <i>aid</i> communication • I can evaluate how sounds have been used in my own work and the work of others. | <p>Use the following sites to find and <i>download</i> sound effects, clips and music:</p> <p>www.findsounds.com (sound effects & samples)</p> <p>www.soundjax.com (sound effects)</p> <p>www.wavcentral.com (sound clips from film & TV) (Be aware: some clips could contain bad language)</p> <p>www.audio.lgfl.net (copyright-free music)</p> <p>www.freeplaymusic.com (copyright-free music)</p> <p>Create a podcast if you are feeling adventurous!</p> <p><u>Using recorded sounds and sound samples</u> Microphones/easi-speak to record sounds. Apply the sounds in your choice of: <i>j2e5</i> <i>MSPowerpoint</i> <i>MSPhotoStory3</i> <i>(If J2e5 is used, the children can blog their work and comment on each other's)</i></p> | <p><u>CURRICULUM LINKS</u></p> <p>ENGLISH</p> <ul style="list-style-type: none"> • Create an advert. • Record the script for an animated story. <p>MATHS</p> <ul style="list-style-type: none"> • Links with 'time'/units of time. • Decimal number – in relation to timings. <p>MUSIC</p> <ul style="list-style-type: none"> • Improvise and compose music for a range of purposes using the inter-related dimensions of music. |

Year 5 Computing- Summer 1
'Digital Media'

| COMPUTING ELEMENT | LEARNING OBJECTIVES/SKILLS | HARDWARE/SOFTWARE | CROSS-CURRICULAR LINKS/NOTES |
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| <p><u>Digital Media</u> <u>National Curriculum</u></p> <ul style="list-style-type: none"> 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 understand computer networks including the internet. use technology safely, respectfully and responsibly. | <p><u>Introduction to Film-making</u></p> <ul style="list-style-type: none"> I know what makes a good film I understand basic film terminology: long / wide shot, focus, close-up / zoom / panning / crane / tracking. I can plan a short film for a target audience. <p><u>Making a short film</u></p> <ul style="list-style-type: none"> I can capture video and sounds using appropriate hardware. I understand basic film editing terminology: trim / split / video & audio tracks / transitions/ title / credits, etc. I can use film-making software to appropriately sequence media I have collected. I can edit sound / video and add titles, credits and effects as appropriate. <p><u>Evaluating & Adapting</u></p> <ul style="list-style-type: none"> I can discuss and evaluate my own and others' images and movies. I can make changes in response to audience feedback. I understand the implications of copyright and apply this to my work. | <p>The children should be applying the skills learnt in the 'sound' module to support their project.</p> <p><u>Windows Movie Maker</u> Create a short movie including, video (interviews), images, sounds, music & text.</p> <p>To allow finished videos to be viewed by a wider audience they should be uploaded to LGfL VideoCentral and linked to, or embedded on the school website / learning platform, or myUSO area.</p> <p>Possible themes for movies:</p> <ul style="list-style-type: none"> <i>Promote an area of the school eg. reading/the arts.</i> <i>Link to our Rights Respecting School Award.</i> <i>An aspect of citizenship.</i> <p>Think about a target audience.</p> | <p><u>CURRICULUM LINKS</u></p> <p>ENGLISH</p> <ul style="list-style-type: none"> Write a film script to act out and record. Write a news report to film. Recount an event. Film some performance poetry. Think about how the film will be appealing for a specific audience. <p>MATHS</p> <ul style="list-style-type: none"> Links with 'time'/units of time. Decimal number – in relation to timings. <p>MUSIC</p> <ul style="list-style-type: none"> Improvise and compose music for a range of purposes using the inter-related dimensions of music. <p>HISTORY</p> <ul style="list-style-type: none"> The film could have a 'Victorian' theme. |

Year 5 Computing- Summer 2 'Digital Research'

| COMPUTING ELEMENT | LEARNING OBJECTIVES/SKILLS | HARDWARE/SOFTWARE | CROSS-CURRICULAR LINKS/NOTES |
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| <p><u>Digital Research National Curriculum</u></p> <ul style="list-style-type: none"> ▪ 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 • understand computer networks including the internet. • use technology safely, respectfully and responsibly. | <p><i>Recap e-safety throughout the topic.</i></p> <p><u>Refining Searches</u></p> <ul style="list-style-type: none"> • I can use more advanced searching techniques. • I can use my knowledge of the meaning of domain names and common website extensions, e.g: .co.uk / .org • I can choose the most appropriate search engine for a task, e.g: image search. <p><u>Reliable Sources</u></p> <ul style="list-style-type: none"> • I can use appropriate strategies for finding, critically evaluating, validating and verifying information. • I can question where web content might originate from and understand that this gives clues to its authenticity and reliability, e.g., by looking at web address, author, contact us sections, linked pages. <p><u>Plagiarism & Copyright</u></p> <ul style="list-style-type: none"> • I am aware that copying text / images / ideas directly from websites or non-digital resources is equivalent to stealing other people's work (plagiarism). • I can begin to understand the concept of copyright, e.g: what images, videos or sounds are legal and safe to use in their own work. • I can identify whether a file has copyright restrictions and can be legally downloaded from the internet then used in their own work. • I can identify how copyright restrictions can affect how a file can be used in their own work, e.g., those produced under <i>Creative Commons Licensing</i>. | <p><u>What makes a good website?</u> Teacher to find some contrasting websites for the children to evaluate.</p> <p><u>Safer search engines</u> www.googlejunior.com www.swiggle.org.uk www.safesearchkids.com www.primaryschoolict.com www.gallery.lgfl.net</p> <p><i>At this stage the children may use google search but they must be clearly made aware of the dangers.</i></p> <p><u>Refining searches</u> Look at things such as "quotation marks" / wildcards / excluding words / search by site, region, time, file type, etc (eg: See Google Advanced Search)</p> <p><u>Clicker6</u> Clicker6 can read text from web pages, indentify key vocabulary and create dictionaries/glossaries to support writing.</p> <p><u>Reliable Sources</u> Use different keywords, skim-reading to check relevance of information, cross checking with different websites or other non</p> | <p><u>CURRICULUM LINKS</u></p> <p style="background-color: #00ff00;">ENGLISH</p> <ul style="list-style-type: none"> • The research can undertaken can be used to support pupils' writing. Eg. A biography or project. • A report or leaflet could be made promoting e-safety. • Thesaurus skills (changing search words) <p style="background-color: #00ffff;">MATHS</p> <ul style="list-style-type: none"> • Reading and interpreting information in tables (where appropriate). • Reading and understanding units of measure (where appropriate). • Reading roman numerals where appropriate. <p style="background-color: #ffff00;">HISTORY</p> <ul style="list-style-type: none"> • Carry out research on the Victorians. <p style="background-color: #008080;">GEOGRAPHY</p> <ul style="list-style-type: none"> • Carry out research on Llandudno <p style="background-color: #ff0000;">SCIENCE</p> <ul style="list-style-type: none"> • Carry out research on animals and habitats. |

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| | <ul style="list-style-type: none">• I understand the concept of plagiarism and the importance of acknowledging and referencing sources of information.• I understand that you should not publish other peoples' material on the Internet without their permission but you can hyperlink to or embed their work.• I am aware that file sharing is usually illegal due to copyright laws and can also spread viruses.• I understand some of the potential dangers and impact of not validating information. (Perpetuate damaging misinformation) | <p>ICT resources.</p> <p><i>Once the children have 'researched' they could apply some of the computing skills they have learnt previously to present their information.</i></p> | |
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