Mapping KS2 Computing Curriculum (2014) to LGfL *The History of Computing*

The curriculum support material for KS2 teachers has been written with a view to a topic based approach covering a number of parts to the curriculum beyond simply the Computing element. The cross curricular elements can be used as a starting point for developing related themes such as Music, Art, Literacy and Maths in the context of Computing.

Core computing concepts are covered in the KS5 section of this resource – but KS2 teachers are encouraged to assess whether the video material could be used to support concept development such as counting in Binary – which are clearly exemplified and offer ideas for teaching the core concepts in a KS2 context.

Lesson Plan	National Curriculum Aims / Attainment Targets	Computing	HoC resource Weblink*
03 – World of Computers	**History**: gain historical perspective by placing their growing knowledge into different contexts, understanding the connections between local, regional, national and international history; between cultural, economic, military, political, religious and social history; and between short- and long-term timescales. **Science**: be equipped with the scientific knowledge required to understand the **uses** and implications of science, today and for the future. **Computing**: 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. **Mathematics:** Through data collection and presentation reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. **Literacy:** use discussion in order to learn; they should be able to elaborate and communication and collaboration.	**Pupils should be taught to:** select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information. use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	• Collossus Computer (1944) • WITCH Computer (1950) • How Britain has lead the way • What makes a computing device (KS3 resource but useful for KS2)

04 – Build a Computer	**Computing**: understand computer networks and the opportunities they offer for communication and collaboration. **Literacy**: write clearly, accurately and coherently, adapting their language and style in and for a range of contexts, purposes and audiences	**Pupils should be taught to:** use sequence, selection, and repetition in programs; work with variables and various forms of input and output select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and info.	• IBM Computer (1965) • Elliot 803 Computer (1961) • Elliot 903 Computer (1968) • ICL Mainframe (1988) • PDP Computer (1965) • Hardware development • Inside a computer • Input and output
05 – Code Breaking	**Literacy**: write clearly, accurately and coherently, adapting their language and style in and for a range of contexts, purposes and audiences. **Literacy**: use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas. **Mathematics**: reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. **Mathematics:** can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. **History**: know and understand the story of these islands: how the British people shaped this nation and how Britain influenced the world. **Computing**: are responsible, competent, confident and creative users of information and communication technology. **Computing:** can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication.	**Pupils should be taught to:** use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs use sequence, selection, and repetition in programs; work with variables and various forms of input and output	• Colossus Computer (1944) • Tommy Flowers (1905-1998) • Alan Turing (1912-1954)

| 06 – Smaller and Faster | **Literacy**: use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas.

Mathematics: can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

History: understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses

Computing: The core of computing is computer science, in which pupils are taught the principles of information and computation, and how digital systems work. | **Pupils should be taught to:**

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 | • Colossus Computer (1944)
• WITCH Computer (1950)
• IBM Computer (1965)
• Elliot 803 Computer (1961)
• Elliot 903 Computer (1968)
• ICL Mainframe (1988)
• PDP Personal Computer (1965)
• BBC Domesday (1986)
• Acorn Computers (1989)
• Charles Babbage (1791-1871)
• Ada Lovelace (1815-1852)
• Tommy Flowers (1905-1998)
• Alan Turing (1912-1954)
• Doron Swade |
| 07 – Who and how many? | **Literacy**: use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas.

Literacy: are competent in the arts of speaking and listening, making formal presentations, demonstrating to others and participating in debate.

Mathematics: reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

Computing: are responsible, competent, confident and creative users of information and communication technology.

Geography: understand geographical similarities and differences through the study of human geography of the United Kingdom and another region of the world. | **Pupils should be taught to:**

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; know a range of ways to report concerns and inappropriate behaviour | • Tim Berners Lee (1955-) |

08 – Computers in Music	**Literacy**: write clearly, accurately and coherently, adapting their language and style in and for a range of contexts, purposes and audiences **Literacy**: use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas **Literacy**: are competent in the arts of speaking and listening, making formal presentations, demonstrating to others and participating in debate. **Computing**: are responsible, competent, confident and creative users of information and communication technology. **Music:** perform, listen to, review and evaluate music across a range of historical periods, genres, styles and traditions, including the works of great musicians and composers	**Pupils should be taught to:** use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour	• [Computers in music](#)
09 – Computers in Art	**Art and Design:** produce creative work, exploring their ideas and recording their experiences **Art and Design:** evaluate and analyse artistic works using the language of art, craft and design **Art and Design:** know about the great artists, craftsmen and designers, and understand the historical development of their art forms. **Computing**: are responsible, competent, confident and creative users of information and communication technology.	**Pupils should be taught to:** 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	• [Computers in art](#)
10 – Computers and shopping	**Literacy**: write clearly, accurately and coherently, adapting their language and style in and for a range of contexts, purposes and audiences	**Pupils should be taught to:** understand computer networks including the internet; how they can provide	• [Computers and shopping](#)

	Literacy: use discussion in order to learn; they should be able to elaborate and explain clearly their understanding and ideas **Literacy**: are competent in the arts of speaking and listening, making formal presentations, demonstrating to others and participating in debate. **Computing**: can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication	multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration	
11 – Computers and medicine	**Computing:** All pupils can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems	**Pupils should be taught to:** 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	• [Computers and medicine](#)
12 – Control and data logging	**Computing**: can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication **Computing**: can analyse problems in computational terms, and have repeated practical experience of writing computer programmes in order to solve such problems. **Science**: are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.	**Pupils should be taught to:** use sequence, selection, and repetition in programs; work with variables and various forms of input and output	• [Input and output](#)
13 – Automation	**Computing**: can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication **Computing**: can analyse problems in computational terms, and have repeated practical experience of writing computer programmes in order to solve such problems.	**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	• [How we interact with computers](#)

	Science: are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.		
14 – Game On	**Computing**: can analyse problems in computational terms, and have repeated practical experience of writing computer programmes in order to solve such problems. **Art and design**: evaluate and analyse artistic works using the language of art, craft and design. **History**: understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically-valid questions and create their own structured accounts, including written narratives and analyses.	**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	• Growth of home computers • Acorn Computers (1989) • Clive Sinclair (1940-)
15 – Get connected	**Computing**: All pupils are responsible, competent, confident and creative users of information and communication technology. **Citizenship:** To recognize how their behaviour affects other people. **Citizenship:** To recognise choices they can make, and recognise the difference between right and wrong. **Citizenship:** Develop a sound knowledge and understanding of the role of law in our society and how laws are shaped and enforced.	**Pupils should be taught to:** 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	• Impact on Leisure • Tim Berners_Lee • How the internet works