Caversham Park Primary School
Computing Curriculum
Year 6

Within **both KS1 and KS2** children the this curriculum should be covered **primarily through day-day teaching** and **<u>full</u> integration with other subjects** and cross curricular work, making use of the **range of technology** which is available within school.

There are 3 core principals of the new curriculum. Basic skills also need to be taught.

Computer Science (SC) **Information Technology (IT)** **Digital Literacy (DL)** **Basic Skills (BS)**

Underpinning each area is **Safe and Responsible Use.**

There are then 5 computing aspects that these core principles can be taught through with skills that need to be taught.

Programming and control **Networks and the Internet** **Creativity and Publishing**

Digital Media **Using Data**

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. . 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.

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Programme of Study KS2	Key Learning Objectives Year 6	Key Skill Development Year 6	Suggested resources and activities/Tips for teaching.
Information Technology and Basic Skills 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	To become skillful at using different tools to control technology. To continue to develop typing speed and accuracy to develop competency in typing Use a variety of software on a rage of digital devices to design and create a range of programs, systems and content that accomplish given goals,	To save, retrieve and print files, To select and load applications and printers from network To be able to copy, delete and move files where necessary. Continue to increase their typing speed. Use two hands to type.	Children should be practising general skills at all times. They should have opportunities to open and save work to both their own and shared areas. Children should be taught to use the right click as a way of changing the picture or text. They should know that format means 'change' in computer speak. They should recognise common file headings e.g. File, Edit, Format and know what these mean. They should know and use terms such as desktop, icons, windows, document. They should know that only word files can be opened in word etc and begin to recognise file types e.g. doc, wav, bmp, jpeg
Digital Literacy and Information Technology 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	To understand the purpose of and use independently a range of different technology. To make choices about when to use technology, which piece(s) of technology to use, which software/tools they are going to use on the technology and be able to explain their choices to others.	Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.** Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices.	
Safe and Responsible Use use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Be discerning in evaluating digital content	To know how to be safe on the internet To recognise that the Internet may contain material that is irrelevant, bias, implausible and inappropriate To begin to recognise that anyone can author on the Internet and sometimes authors on the Internet can produce content which is offensive, rude and upsetting and to follow school rules if anything is found.	To know the SMART rules and how to stay safe online. To understand that not everything you read is accurate. To understand that information on the internet can be misleading and to question what I read.	BECTA Lessons- 3, 5, 8 Reviewed (these have already been taught but need to be reviewed! SMART rules and self exploration at http://www.kidsmart.org.uk/ http://www.gridclub.com/freearea/tasters/cybercafe/base.htm **Caversham Park E-Safety Curriculum**

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Programming and control (CS) 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	• Continue to develop an understanding of how technology works, with a focus on developing computational thinking • Control an on-screen icon using text based controls, including responding to sensors and repeating written algorithms • To use assisted programing which interacts with external controllers, and elements on screen, creating algorithms and using logic and calculations	To design, write and debug programs which include multiple procedures to control inputs and outputs concurrently. To design, write and debug programs in response to problems using real systems. To develop a system that controls events in response to sensors. To connect real control boxes and models to try out Flowcharts and systems	Control Station Inputs and Outputs including Sensors. Scratch Free coding on Purple Mash
Networks and the internet understand computer networks including the internet; how they can provide multiple use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content services, such as the world wide web; and the opportunities they offer for communication and collaboration Be discerning in evaluating digital content	To check plausibility of information from a variety of sources on the same topic To use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data To understand plagiarism and the importance of acknowledging sources	Understand the dynamics of different search engines and know that there are different search engines which may focus on different media. Modify searches further to find relevant information for a report. Talk about where web content might originate from by looking at web address, author, other linked pages. Talk about validity and plausibility of information by checking other sources. Recognise the impact of using incorrect information in their work. Skim and select information checking for bias and different viewpoints.	**Useful websites for Plausibility:** *Investigate plausibility http://www.school-portal.co.uk/GroupHomepage.asp?GroupID=257454* **Dog Island Free Forever:** A puppy dog paradise. http://www.thedogisland.com **The Pacific Northwest Tree Octopus:** http://zapatopi.net/treeoctopus.html **Victorian Robots:** http://www.bigredhair.com/robots/index.html

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Creativity and publishing 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	To create websites for a specific purpose and improve these sites. To use technology to help them present their work, showing an increasing degree of skill and using advanced features of software and tools. To select tools which they can use to help them achieve a specific aim and justify these choices to others., Understand the importance of evaluation and adaptation of individual features to enhance the overall product.	Continue to create websites based on topics, area of interest or events, increasing the complexity of these sites e.g. Google sites. Continue to create presentations which link into a topic, area of interest or event, choosing an appropriate tool or service. Include: text, images, sound, narration or music. Use hyperlinks to link page. Continue to regularly use word processing and desktop publishing to present their work, combing formatted text with other media and making choices about programs and features to use and justifying these choices to others. Continue to use ICT to create a finished product or set of linked products, developing consistency in style across linked products.	Children should use **Word, PowerPoint and Publisher** to make a range of documents and in a range of subjects. Emphasis should be placed on the purpose of theses documents so that children can think carefully about their audience.
Digital Media 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	To independently take photographs and record video taking into account the audience and/or purpose for the image/video. To begin to recognise the different layers of sound in a professional broadcast and use technology to record and manipulate music/sound refining for a given audience or project To use technology to create stop motion animations and add audio and video effects to these animations. To use a computer to add complex effects to photographs and to preform common photograph edits (e.g. red eye removal)	Continue to choose to independently record video for a range of purposes. Continue to take photographs for a specific reason or project and/or find appropriate images on-line. Independently choose and use an appropriate device to record sounds in order to create a sound file and manipulate sounds using computer software – e.g. remove unwanted silences/trimming start and end - combine to make a podcast or similar broadcast. Create stop motion animations and combine with video and audio effects. Apply more complex effects to photographs using a computer. Compare and contrast different image creation and	Audio- use web based on-line tools, audacity on a computer.

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		editing tools across a range of platforms.	
Using Data 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	To continue to use technology, including spreadsheets to create graphs and present data in different ways. To be able to design, construct, evaluate and modify simple models i.e. enter data, enter formulae, copy cells and use simple formatting in a spreadsheet. To understand that ICT allows quick and easy changes to be made to different variables once a spreadsheet is set up. Talk about how the spreadsheet helps them to manipulate a model easily To continue to use, search, enter data into and create their own databases..	Understand what a spreadhseet is and the basic features of a spreadsheet and how these may be used in real life applications. To investigate ready made spreadsheet models containing a complex range of formula and asking questions of the nature, "what would happen if?" Linked into a theme, or real life application, create a spreadhseet, enter basic formulae (simple calculations and SUM); functions (average, maximum and minimum) and answer 'What if…' questions. To plot a variety of graph types to illustrate specific data within the spreadsheet To draw conclusions from their analysis and present their findings To plan, design and evaluate a data collection sheet understanding that information is stored within a database using a variety of Field types	Spreadsheets can be linked into Maths and Topic work. Create a travel programme to work out costs of a holiday to Australia. Use spreadsheets to learn about the Titanic and analysis data such as survivors and roles on board.

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		To construct appropriate questions and choose which search techniques to use to interrogate a database To understand the difference between a database and a spreadsheet.	