Caversham Park Primary School
Computing Curriculum
Year 5

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 5	Key Skill Development Year 5	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 open, resize, reorganise and close windows, To know window icons, begin to know file types 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. To begin 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- 5, 6, 8** Review SMART rules using 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. Understand that software relies on codes to run and that a range of different coding languages exist. To use assisted programing software to create basic software which interacts with external controllers, and elements on screen. Using the software control the movement and responses of different elements on screen.	To control devices, such as small motors, light bulbs, buzzers, by giving direct instructions. To write procedures to control an input or output device. To use control language to activate multiple devices concurrently. To use if, repeat, then, wait functions within programmes. To control input/output devices, by building a sequence of events, to solve a problem. To connect real control boxes and models to try out Flowcharts.	Mission Control Inputs Control Station Inputs and Outputs (switches) Gorilla Level on Purple Mash Scratch
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 use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data To save and use pictures, text and sound and be able to import into a document for presentation (ref. multimedia presentation) To understand the issues of copyright and how they apply to their own work explain their choices for using these for different purposes	Discuss and use different strategies for finding relevant information, e.g. using different keywords to find information on a given enquiry Modify searches further to find relevant information for a report Select and combine information from a range of different sources and present their findings using a word processing or multimedia/publishing package for a specific audience Be aware that web sites are not always accurate and that information should be checked before it is used. Discuss issues of copyright and downloading material e.g. mp3s, images, videos etc. Find images which are creative common licenced and understand the importance of stating their sources.	Delivered as part of the 'Creating and Publishing' unit and alongside the day-day curriculum. Children should start to use the internet for their research in different subjects. Use child friendly search engines e.g. Yahooligans. search for images using a safe stock image site Children should always be supervised

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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 a website, giving thought to it's audience and including links, images and embedded media and documents. To understand that evaluation and improvement is a vital part of a design process and ICT allows changes to be made quickly and efficiently To combine text and graphics and sound for a purpose To develop an image using appropriate tools To know that images can be created by combining and manipulating objects To use an object-based graphics package to produce and explore a graphical model	**Word Processing** Work together to create a website based on a topic, area of interest or event (for example using goggle sites) which incorporates hyperlinks, images and embedded media/documents. 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. • Use text boxes and text flow • Make slide transitions • Use custom animation • Link sounds to the transitions • Use hyperlinks to link pages and create action buttons Continue to use ICT to create a finished product or set of linked products, developing consistency in style across linked products. **Images** To move, rotate and re-size graphic elements To use order settings and group objects to generate the best layout for presenting text and images. To use geometric tools to create objects which can be manipulated using an object-based graphics package To re-colour objects. To use rulers and margins	Children should use **Word, PowerPoint and Publisher** to make a range of documents and in a range of subjects. When creating PowerPoints: • They should experiment with different fonts and backgrounds to suite the topic and audience. • When using slide transitions they should consider when these are needed and whether using a sound is appropriate Use model shop to design your own classroom. Use Publisher to create work by common artists like the Snail. Create Tudor patterns using shapes in publisher. Use shapes to create William Morris Pictures. Discuss the difference between using a graphics package like Publisher and using paint– you can move the objects you insert (you can't in paint. Create a use shapes as part of work in other subjects- use shape tools in word, publisher and powerpoint

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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 use technology to electronically compose music or sounds including creating melodies and save these as audio files. To use technology to capture and edit video, applying a range of different effects and incorporating numerous video clips. To independently take photographs and record video taking into account the audience and/or purpose for the image/video.	Use a range of devices to create music samples and sequence these. Create and plan videos incorporating a range of different scenes and effects. Continue to choose to independently record video for a range of purposes including animation. Continue to take photographs for a specific reason or project and/or find appropriate images on-line.	Audio- use web based on-line tools.
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, search, enter data into and create their own databases To continue to use technology, including spreadsheets to create graphs and present data in different ways..	Continue to use the computer and spreadsheets to create and alter graphs and charts. To create Spreadsheets that include a variety of formula and cell formats, such as money and decimal places To enter and copy formulae into a spreadsheet. To use 'SUM' to calculate the total of a set of numbers in a range of cells To change data in a spreadsheet to answer 'what if...?' questions and check predictions. To continue to create their own databases as appropriate, linking into work across the curriculum. To Interrogate a database using complex search techniques that include AND, OR, NOT, < > operators	