Caversham Park Primary School
Computing Curriculum
Year 4

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.

Caversham Park Primary School
Computing Curriculum
Year 4

Programme of Study KS2	Key Learning Objectives Year 4	Key Skill Development Year 4	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, I use right mouse button. To open, resize, reorganise and close windows, I know window icons, begin to know file types To use 'save as' to keep drafts Continue to increase their typing speed. Use two hands to type. Use various types of software, hardware and internet services. with independence. Use internet Services with independence.	Children should be practising basic skills at all times. . 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 and why they are called that. e.g File is called file because it contains features like open, save, print files. They should know and use terms such as desktop, icons, windows, and 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 Aim to reach the accepted competency rate for children of **20WPM** by the end of Year 4.
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- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use an *easi-speak* microphone rather than the computer to record sound.	

Caversham Park Primary School
Computing Curriculum
Year 4

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 know the SMART rules. To begin to understand that not everything you read is accurate.	**BECTA Lessons- 3, 4, 5** Children should revise SMART rules using Becta resources and these links http://www.thinkuknow.co.uk/8_10/ **Caversham Park E-Safety Curriculum**
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	To continue to develop their understanding of how a computer processes instructions and commands. To understand that devices or on screen turtles are controlled by sequences of instructions or actions, and that these can be inputted using icons of by text. To create, edit and refine more complex sequences of instructions for a variety of programmable devices.	Begin to plan more complex sequences of instructions for on-screen and floor turtles, test and amend these instructions. Logo To write procedures to create shapes calculating the angles for myself. To create more complex programs using procedures. To write procedures to control sensors. To write, test and debug programs for a purpose. Control To control simple devices, such as small motors, light bulbs, buzzers, by giving direct instructions. To use simple procedures to control more than one output device. To use simple control language to activate multiple devices concurrently. To use repeat, then, wait functions within programmes. To control output devices, by building a sequence of events, to solve a problem.	Pro-bots Level 3 Mission Control Outputs Use Gibbon Level on Purple Mash Logo 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	To draw information from a question to develop keywords to find relevant information e.g. What did Romans eat? To be able to skim read and sift information to check its relevance and modify their search	To skim and scan information to find relevant details, Know that they can use search engine tools for different types of media e.g. Image Search, video, sound but understand that the results are not	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.

Caversham Park Primary School
Computing Curriculum
Year 4

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	strategies if necessary To understand that the information they use needs to be appropriate for the audience they are writing for e.g. copying and pasting difficult language To understand the dynamics of a search engine and know that there are different search engines (some within specific sites e.g. BBC, and some the whole of the Internet e.g.Yahooligans, Ask) To evaluate different search engines and explain their choices for using these for different purposes 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	always what you expect To know the importance of reading the information printed and writing it in their own words. Be aware that web sites are not always accurate and that information should be checked before it is used. Present their findings using a word processing or multimedia/publishing package for a specific audience	Use child friendly search engines. search for images using a safe stock image site Children should always be supervised
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 combine text and graphics and sound for a purpose. To edit text and use a variety of presentation techniques e.g. Power point, Publisher and Word. To record sounds using Audacity to support my work. 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 develop an image using appropriate tools To use technology to create images and apply	***Word processing*** To alter font size and use effects to indicate relative importance To use copy, cut and paste to reorder a piece of text To delete, insert and replace text to improve clarity and create mood To use spell check Use ICT to create a finished product or set of linked products, making revisions to their work. ***Images*** To use stamps and/or the copy tool To alter the size of the brush tool	Children should use **Word, PowerPoint and Publisher** to make a range of documents. They can design them for different purposes and choose the graphics and other effects to suite the audience. Sounds can be inserted into Publisher to create interactive big books that younger children can use. Or voices can be used to make a poster 'come alive' possibly about Bullying etc.

Caversham Park Primary School
Computing Curriculum
Year 4

	effects to these images.	To select areas, copy and re-size them To use a range of visual effects, such as reflection or symmetry To take photographs with the digital camera. To alter photographs by adding my own designs.	
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 know they can record sound using ICT that can be stored and played back and independently using a **range of tools** to record sound, choosing appropriate tools for the situation and purpose. To create basic stop motion animations using technology. To independently record video using a range of devices and for a range of purposes. To use technology to edit video, applying basic effects and transitions. To independently take photographs taking into account the audience and/or purpose for the image.	Use a range of devices to create extended pieces of music using a wide range of pre-recorded samples. Create simple stop motion animations. Use a range of tools to create more complex images using a computer (no layering) Edit video using a range of basic video editing applications. Continue to take photographs for a specific reason or project and/or find appropriate images on-line.	
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 tables and graphs to show my findings. To be able to design and create a basic database. To use a database to answer questions by constructing queries.	To design simple questionnaires to record numbers, text and choices To use spreadsheets to create tables and graphs. To know cell references. To know how to resize cells To use ICT to create line graphs and bar graphs. To interpret and analyse information in graphs To be able to enter data into a pre-prepared database.	Children can create tables and graphs linked to Science Geography and Numeracy. They should be taught to create graphs appropriate to the topic. Bar charts and line charts should be covered. You could also use line graphs in Literacy to track tension throughout the story. To do this you need to break down the story into section and give each section a score out of 10 for tension. Then plot on a line graph

Caversham Park Primary School
Computing Curriculum
Year 4

		To search a database. To use a database to produce bar and line graphs	Use Excel for spreadsheets