Computing - Whole School Overview

Dobcroft JUNIOR SCHOOL
Together we make a difference

In Computing we build upon the learning in KS1 and by the end of year 6 we aim for all pupils to have studied a broad and progressive Computing curriculum, with deep links with mathematics, science and design and technology that inspires and motivates them, and provides insights into both natural and artificial systems. A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. […] 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.

Year 3					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Topic	**Communicating: Text and Images**	**Communicating: Media**	**Understanding & Sharing Data**	**Programming A**	**Programming B**
Sheffield Primary Computing Scheme Link	**What makes a good poster?**	**How do I use the computer as a musician?**	**How do we use databases to find out information?**	**How do I use repetition in programs?**	**How do I use forever loops in programs?**
	Pupils use a variety of software to combine media in order to present information. They evaluate existing and their own digital content and edit their own content to improve it according to feedback.	Pupils edit existing digital content to make a new version with an awareness of copyright. They evaluate existing and their own digital content, and edit it to improve it according to feedback. They design and create digital content for a specific purpose.	Pupils understand the benefits of using a computer to create charts and databases. They can design a questionnaire and collect a range of data, enter data into a database package and test. Pupils draw conclusions from information stored in a database.	Pupils use repetition to make programs more efficient. They plan out their programs and algorithms, and test the effectiveness of their algorithm. Pupils use the language if... then... to describe the relationship between two actions.	Pupils use repetition to make programs more efficient. They predict the outcome of a block-based program, and can remix and change an existing program. They plan out programs by writing algorithms. They use forever loops in a program
Links to Online Safeguarding	Pupils understand that people can give permission for others to use their	Pupils understand that people can give permission for others to use their content e.g. using Creative Commons.	They understand when to share personal information and when not to.		

	pictures e.g. using Creative Commons. They know different ways of reporting unacceptable content and contact online				
Key Skills	Pupils can open and save a file to a suitable folder, and use suitable file names when saving work. They understand that school computers can be connected and they may use a shared area for saving work. They type using all fingers. Pupils use a search engine to find information using keyword searches.				

	Year 4				
	Autumn 1	Spring 1	Spring 2	Summer 1	Summer 2
Theme	**Communicating: Media**	**Programming A**	**Communicating: Text and Images**	**Understanding & Sharing Data**	**Programming B**
Sheffield Primary Computing Scheme Link	**What makes an excellent multimedia story?**	**How do I write efficient programs?**	**How do I use the computer as an artist?**	**How is data shared online?**	**How do I use selection in a program?**
	Pupils collect, organise and present information effectively using a range of media. They use more complex tools to edit and enhance media for a particular effect.	Pupils use forever loops in a program. They decompose a problem and create a solution for each step. Pupils create a program using a range of events/inputs to control what happens	Pupils collect, organise and present information effectively using a range of media. They design and create digital content for a specific purpose. They use a range of tools to edit and enhance media for a particular effect. Pupils collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365.	Pupils understand that school computers are connected together in a network. They understand that we use a web browser to access information stored on the Internet and can explain simply how the Internet works. Pupils can present data in a number of different ways to convey information.	Pupils create a program using a range of events/inputs to control what happens. They use selection in algorithms and programs, i.e. if... then... They can decompose a problem and create a solution for each part.
Links to Online Safeguarding	They can rate a game or film they have made and explain their rating.		They understand that the media can portray groups of people differently.	They are aware that some people lie about who they are online, and recognise the benefits and risks of different apps and websites. Pupils understand that when we share content online, we might not be able to delete it.	
Key Skills *use search technologies effectively, appreciate how results are selected and*	Pupils understand that you can organise files using folders, and can	They use right-click, left-click and double-click appropriately on a mouse.	Pupils use a search engine to find specific information, and know how to copy text and	Pupils remember an individual password.	They use right-click, left-click and double-click appropriately on a mouse.

ranked, and be discerning in evaluating digital content	delete, move and copy files. They use right-click, left-click and double-click appropriately on a mouse. Pupils use a search engine to find specific information, and know how to copy text and images from a web page or document into another document.		images from a web page or document into another document. Pupils remember an individual password. They use right-click, left-click and double-click appropriately on a mouse.	

Year 5					
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**
Theme	**Communicating: Text and Images**	**Programming A**	**Communicating: Media**	**Understanding & Sharing Data**	**Programming B**
Sheffield Primary Computing Scheme Link	**How do we collaborate online?**	**How do I program physical systems?**	**How do I create a radio advert?**	**How do I find and share data safely and responsibly?**	**How do I use variables in programs?**
	Pupils select, combine and use Internet services to fulfil a purpose. They recognise the audience when designing and creating digital content. They understand the difference between the Internet and the World Wide Web and the benefits of using technology to collaborate with others. They are aware of a range of Internet services, e.g. email, VOIP (Voice Over Internet Protocol e.g. Skype, FaceTime), World Wide Web, and what they do. They recognise the audience when designing and creating digital content.	Pupils predict what will happen in a program or algorithm (e.g. change of output) when the input changes (e.g. sensor, data or event). They create programs including repeat until loops and recognise variables in a program.	Pupils identify and use appropriate hardware and software to fulfil a specific task. They remix and edit a range of existing and their own media to create content. They recognise the audience when designing and creating digital content.	Pupils understand the difference between physical, mobile and wireless networks. They can explain the difference between the World Wide Web and the Internet. They understand the basics of how search engines work, and that different search engines may give different results. Pupils perform complex searches for information using advanced settings in search engines.	Pupils predict what will happen in a program or algorithm (e.g. change of output) when the input changes (e.g. via sensor, data or event). They create programs including repeat until loops. They create simple variables, e.g. to keep score or remove lives in a game and understand the difference and use if… then… and if… then… else... statements.
Links to Online Safeguarding	Pupils demonstrate responsible use of online services and technologies, and know a range of ways to report concerns.		Pupils know where to find copyright free images and audio, and why this is important.	They critically evaluate websites for reliability of information and authenticity. They become increasingly savvy online consumers:	

	They critically evaluate websites for reliability of information and authenticity.			know that algorithms are used to track online activities with a view to targeting advertising and information.	
Key Skills	Pupils use the keyboard confidently to type at a suitable pace, and can use common keyboard shortcuts, e.g. Ctrl + C (copy); Ctrl + V (paste). They organise their files using folders and appropriate file names.		They organise their files using folders and appropriate file names.	They organise their files using folders and appropriate file names. They create and use a strong password where appropriate. Pupils use the keyboard confidently to type at a suitable pace, and can use common keyboard shortcuts, e.g. Ctrl + C (copy); Ctrl + V (paste).	

	Autumn 1	Autumn 2	Spring 1	Summer 1	Summer 2

	Autumn 1	Autumn 2	Spring 1	Summer 1	Summer 2
Theme	**Understanding & Sharing Data**	**Programming A**	**Communicating: Text and Images**	**Communicating: Media**	**Programming B**
Sheffield Primary Computing Scheme Link	**Why do we use spreadsheets?**	**How do I build complex physical systems?**	**How do I use the computer as a designer?**	**What makes an excellent film?**	**How do I design complex programs?**
	Pupils understand that there are different tools for analysing data. They can collect, organise and present data independently in a spreadsheet. They recognise that poor quality data leads to unreliable results.	Pupils create simple variables, e.g. to keep score or remove lives in a game. They understand the difference and use if… then… and if… then… else… statements. They can combine a variable with relational operators (< = >) to determine when a program changes. Pupils can design a physical computing system that uses sensors, e.g. using a flow chart.	Pupils identify success criteria for creating digital content for a given purpose and audience. They evaluate their own content against success criteria and make improvements accordingly. They recognise common file types and extensions.	Pupils identify success criteria for creating digital content for a given purpose and audience. They evaluate their own content against success criteria and make improvements accordingly.	Pupils understand the difference between and use if… then… and if… then… else… statements. They combine a variable with relational operators (< = >) to determine when a program changes. They recognise the audience when designing and creating digital content. Pupils evaluate their own content against success criteria and make improvements accordingly.
Links to Online Safeguarding				They can explain why films have certain ratings.	
Key Skills		They use more advanced searching techniques when using a search engine. Pupils recognise common file types and extensions, and know examples of why this is useful.	Pupils understand that different devices can have different operating systems, and can give examples, e.g. Windows, iOS, Android, and they understand the main functions of an operating system (i.e. it determines the look and feel of the		

		interface, the programs that run on the computer, and manages the hardware connected to it).		