Computing Curriculum at Scargill CE Primary School

Year 1 Computer User	Year 2 Computer User	Year 3 Computer User	Year 4 Computer User	Year 5 Computer User	Year 6 Computer User

| National Curriculum | Pupils should be taught to:
• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
• Create and debug simple programs
• Use logical reasoning to predict the behaviour of simple programs
• Use technology purposefully to create, organise, store, manipulate and retrieve digital content
• Recognise common uses of information technology beyond school
• Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. | 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
• 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
• 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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
• 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
• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. |

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Progression and Assessment Criteria	**Algorithms and programming** • Create a series of instructions. • Plan a journey for a programmable toy. **Information technology** • Create digital content. • Store digital content. • Retrieve digital content. • Use a website. • Use a camera. • Record sound and play back. **Digital literacy** • Use technology safely. • Keep personal information private. **(See below for further details)**	**Algorithms and programming** • Use a range of instructions (e.g. direction, angles, turns). • Test and amend a set of instructions. • Find errors and amend. (debug) • Write a simple program and test it. • Predict what the outcome of a simple program will be (logical reasoning). • Understand that algorithms are used on digital devices. • Understand that programs require precise instructions. **Information technology** • Organise, retrieve and manipulate digital content. • Can navigate the web to complete simple searches. **Digital literacy** • Use technology respectfully. • Know where to go for help if I am concerned. • Know how technology is used in school and outside of school. **(See below for further details)**	**Algorithms and programming** • Design a sequence of instructions, including directional instructions. • Write programs that accomplish specific goals. • Work with various forms of input and output. **Information technology** • Use a range of software for similar purposes. • Collect and present information. • Design and create content. • Search for information on the web in different ways. • Manipulate and improve digital images. **Digital literacy** • Use technology respectfully and responsibly. • Know different ways I can get help if I am concerned. • Understand what computer networks do and how they provide multiple services. • Discern where it is best to use technology and where it adds little or no value. **(See below for further details)**	**Algorithms and programming** • Experiment with variables to control models. • Give an on-screen robot specific instructions that takes them from A to B. • Make an accurate prediction and explain why I believe something will happen (linked to programming). • De-bug a program. **Information technology** • Select and use software to accomplish given goals. • Collect and present data. • Produce and upload a podcast. **Digital literacy** • Recognise acceptable and unacceptable behaviour using technology. **(See below for further details)**	**Algorithms and programming** • Combine sequences of instructions and procedures to turn devices on and off. • Use technology to control an external device. • Design algorithms that use repetition and 2-way selection. **Information technology** • Analyse information. • Evaluate information. • Understand how search results are selected and ranked. • Edit a film. **Digital literacy** • Understand that you have to make choices when using technology and that not everything is true and/or safe. **(See below for further details)**	**Algorithms and programming** • Design a solution by breaking a problem up. • Recognise that different solutions can exist for the same problem. • Use logical reasoning to detect errors in algorithms. • Use selection in programs. • Work with variables. • Explain how an algorithm works. • Explore 'what if' questions by planning different scenarios for controlled devices. **Information technology** • Select, use and combine software on a range of digital devices. • Use a range of technology for a specific project. **Digital literacy** • Discuss the risks of online use of technology. • Identify how to minimise risks. **(See below for further details)**
	A safe computer user in Year 1 and Year 2		**A safe computer user in Year 3 and Year 4**		**A safe computer user in Year 5 and Year 6**	

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Progression and Compliance Criteria	Knowledge and understanding • Understand the different methods of communication (e.g. email, online forums etc). • Know you should only open email from a known source. • Know the difference between email and communication systems such as blogs and wikis. • Know that websites sometimes include pop-ups that take me away from the main site. • Know that bookmarking is a way to find safe sites again quickly. • Have begun to evaluate websites and know that everything on the internet is not true. • Know that it is not always possible to copy some text and pictures from the internet. • Know that personal information should not be shared online. • Know I must tell a trusted adult immediately if anyone tries to meet me via the internet. Skills • Follow the school's safer internet rules. • Use the search engines agreed by the school. • Know what to do if I find something inappropriate online or something I am unsure of (including identifying people who can help; minimising screen; online reporting using school system etc.). • Use the internet for learning and communicating with others, making choices when navigating through sites. • Send and receive email as a class. • Recognise advertising on websites and learn to ignore it. • Use a password to access the secure network.		Knowledge and understanding • Understand the need for rules to keep me safe when exchanging learning and ideas online. • Recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion. • Understand that the internet contains fact, fiction and opinion and begin to distinguish between them. • Use strategies to verify information, e.g. cross-checking. • Understand the need for caution when using an internet search for images and what to do if I find an unsuitable image. • Understand that copyright exists on most digital images, video and recorded music. • Understand the need to keep personal information and passwords private. • Understand that if I make personal information available online it may be seen and used by others. • Know how to respond if asked for personal information or feel unsafe about content of a message. • Recognise that cyber bullying is unacceptable and will be sanctioned in line with the school's policy. • Know how to report an incident of cyber bullying. • Know the difference between online communication tools used in school and those used at home. • Understand the need to develop an alias for some public online use. • Understand that the outcome of internet searches at home may be different than at school. Skills • Follow the school's safer internet rules. • Recognise the difference between the work of others which has been copied (plagiarism) and re-structuring and re-presenting materials in ways which are unique and new. • Identify when emails should not be opened and when an attachment may not be safe. • Explain and demonstrate how to use email safely. • Use different search engines.		Knowledge and understanding • Discuss the positive and negative impact of the use of ICT in my own life, my friends and family. • Understand the potential risk of providing personal information online. • Recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content. • Understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented. • Recognise the potential risks of using internet communication tools and understand how to minimise those risks (including scams and phishing). • Understand that some material on the internet is copyrighted and may not be copied or downloaded. • Understand that some messages may be malicious and know how to deal with this. • Understand that online environments have security settings, which can be altered, to protect the user. • Understand the benefits of developing a 'nickname' for online use. • Understand that some malicious adults may use various techniques to make contact and elicit personal information. • Know that it is unsafe to arrange to meet unknown people online. • Know how to report any suspicions. • Understand I should not publish other people's pictures or tag them on the internet without permission. • Know that content put online is extremely difficult to remove. • Know what to do if I discover something malicious or inappropriate. Skills • Follow the school's safer internet rules. • Make safe choices about the use of technology. • Use technology in ways which minimises risk. e.g. responsible use of online discussions, etc. • Create strong passwords and manage them so that they remain strong. • Independently, and with regard for e-safety, select and use appropriate communication tools to solve problems by collaborating and communicating with others within and beyond school. • Competently use the internet as a search tool. • Reference information sources. • Use appropriate strategies for finding, critically evaluating, validating and verifying information. e.g. using different keywords, skim reading to check relevance of information, cross checking with different websites or other non ICT resources. • Use knowledge of the meaning of different domain names and common website extensions (e.g. .co.uk; .com; .ac; .sch; .org; .gov; .net) to support validation of information.	