



Weaving Computing Knowledge, Skills and Understanding into the new National Curriculum

**Key Stage 1:
Computing**



National Curriculum Requirements of Computing at Key Stage 1

Pupils should be taught to:

- understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions
- write and test simple programs
- use logical reasoning to predict the behaviour of simple programs
- organise, store, manipulate and retrieve data in a range of digital formats
- communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.



Year 1

Computing

Algorithms and Programs

Data Retrieving and Organising

Communicating

Year 2

Computing

Algorithms and Programs

Data Retrieving and Organising

Communicating



E-safety in Key Stage 1

Knowledge & understanding	Skills
<ul style="list-style-type: none">• 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 them away from the main site.• Know that bookmarking is a way to find safe sites again quickly.• Begin 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 they must tell a trusted adult immediately if anyone tries to meet them via the internet.	<ul style="list-style-type: none">• Follow the school's safer internet rules.• Use the search engines agreed by the school.• Act if they find something inappropriate online or something they are 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.



Weaving Computing Know Skills and Understanding in new National Curriculum



**Key Stage 2:
Computing**



National Curriculum Requirements of Computing at Key Stage 2

Pupils should be taught to:

- design and write 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; generate appropriate inputs and predicted outputs to test programs
- use logical reasoning to explain how a simple algorithm works 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
- describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.



Year 3

Computing

Algorithms and Programs	Data Retrieving and Organising	Communicating
Using the Internet	Databases	Presentation

Year 4

Computing

Algorithms and Programs	Data Retrieving and Organising	Communicating
Using the Internet	Databases	Presentation



E-safety in Years 3 and 4

Knowledge & understanding	Skills
<ul style="list-style-type: none"> • Understand the need for rules to keep them safe when exchanging learning and ideas online. • Recognise that information on the internet may not be accurate or reliable and may be used for bores, 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 they 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 they 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 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. 	<ul style="list-style-type: none"> • 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. • Begin to identify when emails should not be opened and when an attachment may not be safe. • Explain how to use email safely. • Use different search engines



Year 5

Computing

Algorithms and Programs	Data Retrieving and Organising	Communicating
Using the Internet	Databases	Presentation

Year 6

Computing

Algorithms and Programs	Data Retrieving and Organising	Communicating
Using the Internet	Databases	Presentation



E-safety in Years 5 and 6

Knowledge & understanding	Skills
<ul style="list-style-type: none"> • Discuss the positive and negative impacts of the use of ICT in their own lives and those of their peers 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 they 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 they discover something malicious or inappropriate. 	<ul style="list-style-type: none"> • Follow the school's safer internet rules. • Make safe choices about 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 not 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.

