**Progression of Skills and Knowledge in Computing**



**Hawkinge Primary School**

Computing can be broken down into three key areas of competency: computer science (how computers work), digital literacy (interacting via digital technologies) and information technology (creating content using technology).

Each unit should include a ‘tinkering’ session (letting children have a go and test out new technology, identifying and solving them – this mirrors real-world practices of computer programmers).

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| KS1 | LKS2 | UKS2 |
| **Algorithms and programming**Y1* I can create a series of instructions
* I can plan a journey for a programmable toy

Y2* I can use a range of instructions
* I can test and amend a set of instructions
* I can find errors and amend
* I can write a simple program and test it
* I can predict what the outcome of a simple program will be
* I understand that algorithms are used on digital devices
* I understand that programs require precise instructions
 | **Algorithms and programming**Y3* I can design a sequence of instructions, including directional instructions
* I can write programs that accomplish specific goals
* I can work with various forms of input
* I can work with various forms of output

Y4* I can experiment with variables to control models
* I can give an on-screen robot specific instructions that take them from A to B
* I can make an accurate prediction and explain why I believe something will happen
* I can de-bug a program
 | **Algorithms and programming**Y5* I can combine sequences of instructions and procedures to turn devices on and off
* I can use technology to control and external device
* I can design algorithms that use repetition and 2-way selection

Y6* I can design a solution by breaking a problem up
* I recognise that different solutions can exist for the same problem
* I can use logical reasoning to detect errors in algorithms
* I can use selection in programs
* I can work with variables
* I can explain how an algorithm works
* I can explore ‘what if’ questions by planning difference scenarios for controlled devices
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| **Information Technology**Y1* I can create digital content
* I can store digital content
* I can retrieve digital content
* I can use a website
* I can use a camera
* I can record sound and playback

Y2* I can organise digital content
* I can retrieve and manipulate digital content
* I can navigate the web to complete simple searches
 | **Information Technology**Y3* I can use a range of software for similar purposes
* I can collect information
* I can design and create content
* I can present information
* I can search for information on the web in different ways
* I can manipulate and improve digital images

Y4* I can select and use software to accomplish give goals
* I can collect and present data
* I can produce and upload a podcast
 | **Information Technology**Y5* I can analyse information
* I can evaluate information
* I understand how search results are selected and ranked
* I can edit a film

Y6* I can select, use and combine software on a range of digital devices
* I can use a range of technology for a specific projects
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| **Digital Literacy**Y1* I can use technology safely
* I can keep personal information private

Y2 * I use technology safely
* I know where to go for help if I am concerned
* I know how technology is used in school and outside of school
 | **Digital Literacy**Y3* I can use technology respectfully and responsibly
* I know different ways I can get help if I am concerned
* I understand what computer networks do and how they provide multiple services
* I can discern where it is best to use technology and where it adds little or no value

Y4* I recognise acceptable and unacceptable behaviour using technology
 | **Digital Literacy**Y5* I understand that you have to make choices when using technology and that not everything is true and/or safe

Y6* I can discuss the risks of online use of technology
* I can identify how to minimise risks
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| **Knowledge and Understanding** Y1 and Y2* I understand the different methods of communication
* I know you should only open email from a known source
* I know the difference between an email and communication systems
* I know that websites sometimes include pop-ups that take me away from the main site
* I know that bookmarking is a way to find safe sites again quickly
* I have begun to evaluate websites and know that not everything on the internet is true
* I know that it is not always possible to copy some text and images from the internet
* I know that personal information should not be shared online
* I know I must tell a trusted adult immediately if anyone tries to meet me via the internet
 | **Knowledge and Understanding** Y3 and Y4* I understand the need for rules to keep me safe when exchanging learning and ideas online
* I recognise that information on the internet may not be accurate or reliable and may be used for bias, manipulation or persuasion
* I understand that the internet contains fact, fiction and opinion and begin to distinguish between them
* I use strategies to verify information
* I understand the need for caution when using an internet search for images and what to do if I find an unsuitable image
* I understand that copyright exists on most digital images, video and recorded music
* I understand the need to keep private information and passwords private
* I understand that if I make personal information available online it may be seen and used by others
* I know how to respond if asked for personal information or feel unsafe about content of a message
* I recognise that cyber bullying is unacceptable and will be sanctioned in line with the school’s policy
* I know how to report an incident of cyber bullying
* I know the difference between online communication tools used in school and those used at home
* I understand the need to develop an alias for some public online use
* I understand that the outcome of internet searches at home may be different than at school
 | **Knowledge and Understanding** Y5 and Y6* I can discuss the positive and negative impact of the use of ICT in my own life, my friends and family
* I understand the potential risk of providing personal information online
* I recognise why people may publish content that is not accurate and understand the need to be critical evaluators of content
* I understand that some websites and/or pop-ups have commercial interests that may affect the way the information is presented
* I recognise the potential risks of using internet communication tools and understand how to minimise those risks
* I understand that some material on the internet is copyrighted and may not be copied or downloaded
* I understand that online environments have security settings, which can be altered, to protect the user
* I understand the benefits of developing a ‘nickname’ for online use
* I understand that some malicious adults may use various techniques to make contact and elicit personal information
* I know that is unsafe to arrange to meet unknown people online
* I know how to report any suspicions
* I understand I should not publish other people’s pictures or tag them on the internet without permission
* I know that content put online is extremely difficult to remove
* I know what to do if I discover something malicious or inappropriate
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| **Skills**Y1 and Y2* I follow the school’s safer internet rules
* I can use search engines agreed by the school
* I know what to do if I find something inappropriate online or something I am unsure of
* I can use the internet for learning and communicating with others, making choices when navigating through sites
* I can send and receive email as a class
* I can recognise advertising on websites and learn to ignore it
* I can use a password to access the secure network
 | **Skills**Y3 and Y4* I follow the school’s safer internet rules
* I 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
* I can identify when emails should not be opened and when an attachment may not be safe
* I can explain and demonstrate how to use email safely
* I can use different search engines
 | **Skills**Y5 and Y6* I follow the school’s safer internet rules
* I can make safe choices about the use of technology
* I can use technology in ways which minimises risk
* I can create strong passwords and manage them so that they remain strong
* I can 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
* I can competently use the internet as a search tool
* I can reference information sources
* I can use appropriate strategies for finding, critically evaluating, validating and verifying information
* I can use knowledge of the meaning of different domain names and common website extension to support validation of information
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