

## Computing Key Stage 1

### Aims

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

### Key Skills

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.
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### Year 1 Key: green = iPad or PC blue = pc

iAlgorithm - Unplugged activities to support understanding of algorithms	iProgram – Programming physical and virtual toys	iModel – Instructions to modelling	iWrite – Creating, manipulating and storing digital text	iData Introduction to data representation	iSafe – Personal information and being safe online
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### Y2

iSearch – using the web to find things out	iProgram – Creating simple animations	iAnimate – Introduction to animation	iPub – Creating interactive eBooks	iDo Mail – Introduction to Email	iSafe - eSafety
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## Computing Key Stage 2

### Aims

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

### Key Skills

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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### Y3

Key: green = iPad or PC blue = pc

iSimulate – Exploring computer simulations	iProgram – Games and animation development	iAlgorithin – unplugged activities, sorting and splitting	iProgram- Robotics with Lego WeDo		iData – introducing databases	iSafe – Staying Safe Online
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### Y4

iAnimate – introduction to animation	iProgam – making shapes and navigating mazes	iProgram – programming puzzles with LightBot	iConnect – Computer networking including using web browsers and search engines safely and effectively		iData – Introduction to data representation	iSafe – Being safe, responsible digital citizens
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### Y5

iProgram – designing and developing computer games	iCrypto – introduction to cryptography	iAlgorithm – Unplugged activities -searching, sorting and networks		iWeb – Remixing and creating web content using HTML		iSafe – Becoming safe and responsible digital citizens
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### Y6

iProgram – designing and developing 3D animations	iProgram – Designing and developing computer programs		iApp – designing and developing apps	iNetwork – Networks, data and creating web content	iData – introducing spreadsheets	iSafe – Staying safe in a digital world
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