|  | **CS** | **IT** | **DL** |
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| **KS1 - 1** | Understand what algorithms are  Create simple programs | Use technology purposefully to create digital content  Use technology purposefully to store digital content  Use technology purposefully to retrieve digital content | Use technology safely  Keep personal information private  Recognise common uses of information technology beyond school |
| **KS1 - 2** | Understand that algorithms are implemented as programs on digital devices  Understand that programs execute by following precise and unambiguous instructions  Debug simple programs  Use logical reasoning to predict the behaviour of simple programs | Use technology purposefully to organise digital content  Use technology purposefully to manipulate digital content | Use technology respectfully  Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies |
| **KS2 -3** | Write programs that accomplish specific goals  Use sequence in programs  Work with various forms of input  Work with various forms of output | Use search technologies effectively  Use a variety of software to accomplish given goals  Collect information  Design and create content  Present information | Use technology responsibly  Identify a range of ways to report concerns about contact |
| **KS2 - 4** | Design programs that accomplish specific goals  Design and create program  Debug programs that accomplish specific goals  Use repetition in programs  Control or simulate physical systems  Use logical reasoning to detect and correct errors in programs  Understand how computer networks can provide multiple services, such as the world wide web  Appreciate how search results are selected | Select a variety of software to accomplish given goals  Select, use and combine internet services  Analyse information  Evaluate information  Collect data  Present data | Understand the opportunities computer networks offer for communication  Identify a range of ways to report concerns about content  Recognize acceptable / unacceptable behaviour |
| **KS2 -5** | Solve problems by decomposing them into smaller parts  Use selection in programs  Work with variables  Use logical reasoning to explain how some simple algorithms work  Use logical reasoning to detect and correct errors in algorithms  Understand computer networks including the internet  Appreciate how search results are ranked | Combine a variety of software to accomplish given goals  Select use and combine software on a range of digital devices  Analyse data  Evaluate data  Design and create systems | Understand the opportunities computer networks offer for collaboration  Be discerning in evaluating digital content |
| **KS3 - 6** | Use computational abstractions  Model state of real world problems  Use a programming language to solve computational problems  Understand simple Boolean logic  Understand how numbers can be represented in binary  Understand the hardware components that make up computer systems  Understand how text can be represented digitally in the form of binary digits  Understand how pictures can be represented digitally in the form of binary digits | Undertake creative projects with challenging goals  Use multiple applications  [Work with] applications across a range of devices  Collect data | Understand a range of ways to use technology respectfully  Recognise inappropriate content  Recognise inappropriate contact  Recognise inappropriate conduct  Know how to report concerns  Reuse digital artefacts for a given audience  Attend to usability of digital artefacts  Understand a range of ways to use technology safely |
| **KS3 – 7** | Evaluate computational abstractions  Model state of physical systems  Model behaviour of real world problems  Understand several key algorithms that reflect computational thinking  Use at least one additional programming language (that must be textual) to solve real world problems  Make use of appropriate data structures  Design modular programs that use procedures or functions  Understand uses of Boolean logic in programming  Be able to carry out simple operations on binary numbers  Understand the software components that make up computer systems  Understand how instructions are stored by computer systems  Understand how text can be manipulated digitally in the form of binary digits  Understand how sounds can be represented digitally in the form of binary digits  Understand how pictures can be manipulated digitally in the form of binary digits | Combine multiple applications to achieve challenging goals  Analyse data  Meet the needs of known users | Revise digital artefacts for a given audience  Attend to trustworthiness of digital artefacts  Protect online identity  Protect privacy |
| **KS3 - 8** | Design computational abstractions  Model behaviour of physical systems  Use logical reasoning to compare the utility of alternative algorithms for the same problem  Develop modular programs that use procedures or functions  Understand uses of Boolean logic in circuits  Understand how computer systems components communicate with one another  Understand how computer systems communicate with other systems  Understand how instructions are executed by computer systems  Understand how sounds can be manipulated digitally in the form of binary digits | Create digital artefacts for a given audience  Select multiple applications to achieve challenging goals | Repurpose digital artefacts for a given audience  Attend to design of digital artefacts  Understand a range of ways to use technology securely  Understand a range of ways to use technology responsibly |

The text above is derived directly from the [2014 national curriculum programmes of study for computing](https://www.gov.uk/government/publications/national-curriculum-in-england-computing-programmes-of-study/national-curriculum-in-england-computing-programmes-of-study), under the terms of the [open government licence 2.0](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/). The organisation in this form is intended to support teachers in forming judgments of their pupils’ achievement of and progress towards the statutory attainment targets: “By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.”

The statements for KS1 and KS2 were included in this form in ‘Computing in the national curriculum: a guide for primary teachers’ available from [Computing at School](http://www.computingatschool.org.uk/data/uploads/CASPrimaryComputing.pdf) and [Naace](http://www.naace.co.uk/get.html?_Action=GetFile&_Key=Data33992&_Id=2495&_Wizard=0&_DontCache=1383908593). The numbering given here is for convenience only.