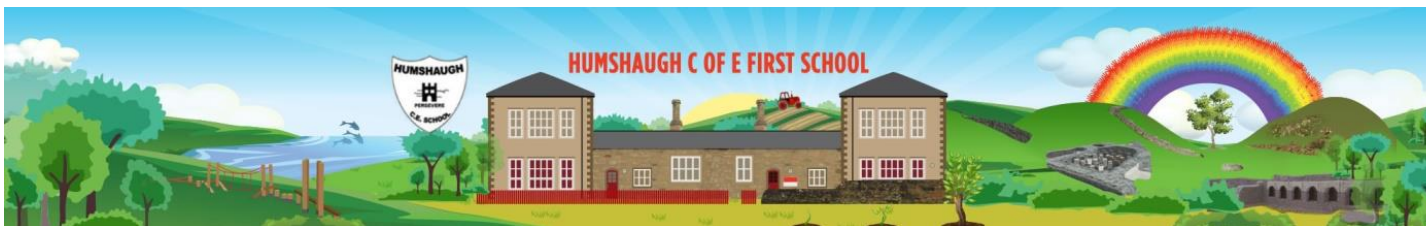


## Computing Curriculum Progression in Skills



### What will a Humshaugh First School Computer Scientist look like?

	At the end of Year 2 they will have the following knowledge:	At the end of Year 6 they will have the following knowledge:
<b>Being a computer scientist</b>	<p><b>The National Curriculum for Computing aims to ensure that all pupils:</b></p> <ul style="list-style-type: none"> <li>● can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</li> <li>● can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</li> <li>● can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</li> <li>● are responsible, competent, confident and creative users of information and communication technology</li> </ul>	<p><b>The National Curriculum for Computing aims to ensure that all pupils:</b></p> <ul style="list-style-type: none"> <li>● can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation</li> <li>● can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems</li> <li>● can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems</li> <li>● are responsible, competent, confident and creative users of information and communication technology</li> </ul>

## Computing Curriculum Progression in Skills

<b>Knowledge</b>	<p><b>During Key Stage 1, pupils should be taught to:</b></p> <ul style="list-style-type: none"><li>● understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions</li><li>● create and debug simple programs</li><li>● use logical reasoning to predict the behaviour of simple programs</li><li>● use technology purposefully to create, organise, store, manipulate and retrieve digital content</li><li>● recognise common uses of information technology beyond school</li><li>● 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</li></ul>
	<p><b>During Key Stage 2, pupils should be taught to:</b></p> <ul style="list-style-type: none"><li>● design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li><li>● use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li><li>● use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li><li>● 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</li><li>● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li><li>● 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</li><li>● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li></ul>

## Computing Curriculum Progression in Skills

### Progression of key skills from Y1 – Y4

	Computer Science	Information Technology
<b>End of EYFS</b>	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	
<b>End of Year 1</b>	<ul style="list-style-type: none"> <li>● To understand what algorithms are</li> <li>● To create simple programs</li> </ul>	<ul style="list-style-type: none"> <li>● To use technology purposefully to access, create, store and retrieve digital content</li> <li>● To use technology safely &amp; to understand the need to keep personal information private</li> <li>● To recognise common uses of information technology beyond school</li> </ul>
<b>End of Year 2</b>	<ul style="list-style-type: none"> <li>● To understand that algorithms are implemented as programs on digital devices</li> <li>● To understand that programs execute by following precise and unambiguous instructions</li> <li>● To use logical reasoning to predict the behaviour of simple programs and debug simple programs</li> </ul>	<ul style="list-style-type: none"> <li>● To use technology purposefully to access, organise, edit and manipulate digital content</li> <li>● To use technology respectfully and identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies</li> </ul>
<b>End of Year 3</b>	<ul style="list-style-type: none"> <li>● To write and debug programs that accomplish specific goals</li> <li>● To use sequences in programs</li> <li>● To work with various forms of input and output</li> </ul>	<ul style="list-style-type: none"> <li>● To use search technologies effectively</li> <li>● To use a variety of software to accomplish given goals</li> <li>● To collect information</li> <li>● To design, create and present content</li> <li>● To use technology responsibly and identify a range of ways to report concerns about contact</li> </ul>

## Computing Curriculum Progression in Skills

<b>End of Year 4</b>	<ul style="list-style-type: none"> <li>● To design, create and to use logical reasoning to debug programs that accomplish specific goals</li> <li>● To use repetition in programs</li> <li>● To control or simulate physical systems</li> <li>● To understand how computer networks can provide multiple services, such as the world wide web</li> <li>● To appreciate how search results are selected</li> </ul>	<ul style="list-style-type: none"> <li>● To select a variety of software to accomplish given goals</li> <li>● To select, use and combine internet services</li> <li>● To analyse and evaluate information</li> <li>● To collect and present data</li> <li>● To understand the opportunities computer networks offer for communication</li> <li>● To identify a range of ways to report concerns about content and recognise acceptable and unacceptable behaviour</li> </ul>
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### Computer Science concepts

At the end of Key Stage 1, the pupils will have developed an understanding of the following computing concepts:	At the end of Key Stage 2, the pupils will have developed an understanding of the following computing concepts:
Program (algorithm), Logical reasoning, Instructions, Debug, Information retrieval, manipulation, Online, Internet, Digital, Software, Hardware, Login/out,	Program (algorithm), Logical reasoning, Instructions, Debug, Information retrieval, manipulation, Online, Internet, Digital, Software, Hardware, Login/out, Design, Input, Output, Sequence and Repetition, Network, WWW, Analyse and Evaluate, Search, Browser, Control, Physical Systems, Simulate