

**Hexham Middle School**  
**Progression of Age-Related Expectations**

Computing	Year 5	Year 6	Year 7	Year 8
<b>Computer Science</b>	<b>Problem Solving</b> I can design a program on my own ideas and write this in a block-based language such as Scratch.  I can experiment with computer control applications and use simple computer control and/or sensors with products like Lego WeDo kits, Makey Makey or similar.  I can plan a solution to a problem using decomposition (identify component parts, use decomposition to break this problem down and then plan how I can solve the problem).	<b>Problem Solving</b> I can design, write and debug a program using a second programming language.  I can design, write and debug my own computer control application.  I can solve problems using decomposition, tackling each part separately.	I can apply some computational thinking techniques e.g. decomposition and abstraction.  I can recognise the main parts of a computer system and how they are connected.  I can use basic techniques to produce efficient and effective coding solutions understanding the need for care and precision of syntax.  I can understand how numbers, text and images can be represented digitally in the form of binary digits.	I can demonstrate a wide application of computational thinking to my work. I can recognise and understand the function of the main parts of a computer system and how they communicate with one another.  I can create physical computing projects which include a range of interactivity to the environment or user.  I can demonstrate an ability to use two or more programming languages to write and develop a computer program.  I can use a range of techniques to produce efficient and effective coding solutions understanding the need for care and precision of syntax.
	<b>Programming</b> I can use sequence, selection and repetition in programs.  I can write a program that accepts keyboard and mouse input and produces output on screen and through speakers.	<b>Programming</b> I can use sequence, selection, repetition and variables in programs.  I can write a program that accepts inputs other than keyboard and mouse and produces outputs other than screen or speakers.		
	<b>Logical Thinking</b> I can explain a rule-based algorithm in my own words.  I can use logical reasoning to detect errors in algorithms.	<b>Logical Thinking</b> I can give clear and precise logical explanations of a number of algorithms.  I can use logical reasoning to detect and correct errors in algorithms (and programs).		
	<b>Communicator</b> I can understand how data routing works on the internet.			

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	I can understand how web pages are created and transmitted.			
<b>Information Technology</b>	<b>Creating Content</b>	<b>Communicator</b>		
	I can use and combine a range of programs on multiple devices to achieve particular goals.	I can understand how mobile phone or other networks operate.	I can use 2D and 3D CAD packages to model ideas.	I can make models and drawings to explore and test design thinking, discussing my ideas with users.
	I can design and create programs on a computer in response to a given goal.	I can understand how domain names are converted into IP addresses on the internet.	I can select appropriately from specialist tools, techniques, processes, equipment and machinery, including computer-aided manufacture.	I can work with a range of tools, materials, equipment, components and processes and show that I understand their characteristics.
	I can analyse and evaluate information working with text, audio, images or video. I can analyse information, perhaps summarising this.	<b>Creating Content</b>	I can work with a range of tools, materials, equipment, components and processes with some precision.	I can analyse the positive and negative impact that products can have in the wider world.
	<b>Searching</b>	<b>Searching</b>	I can use simple electronic circuits incorporating inputs and outputs.	I can test, evaluate and refine ideas and products against a specification, taking into account the views of intended users.
	I can use filters to make more effective use of a standard search engine.	I can make use of a range of search engines appropriate to finding information that is required.	I can test and evaluate work showing understanding of the product context and limitations.	
I can understand that search engines use a cached copy of the crawled web to select and rank results.	I can appreciate that search engines rank pages based on the number and quality of in-bound links.			
I can reflect on the importance of citing all sources when I do research. I learn how to write bibliographical citations for online sources.				
<b>Digital Literacy</b>	<b>E-Safety</b>	<b>E-Safety</b>		
	I can demonstrate that I can act responsibly when using the internet which includes using strong passwords to protect my identity online.	I can identify some principles underpinning acceptable behaviour when using technologies in a range of contexts.	I can create and combine different forms of information, refining and presenting it for a particular purpose, showing an awareness of audience and the need for quality and reliability.	I can use ICT to structure, refine and present information in different forms and relevant styles for specific purposes and audiences.
I can discuss the consequences of particular behaviours when using digital technology.	I can discuss likely and potential consequences of my actions when using digital technology in a range of contexts.	I can develop simple ICT-based models to explore patterns and relationships, and make predictions about the consequences of their decisions e.g.	I can exchange information and ideas with others in a variety of ways, including using digital communications.	
			<b>E-Safety</b>	

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	<p>I know what spam is, the forms it takes, and then identify strategies for dealing with it.</p> <p>I know that photos can be altered digitally. I consider the creative upsides of photo alteration, as well as its power to distort our perceptions of beauty and health.</p>	<p>I can identify secure sites by looking for their privacy policies and privacy seals of approval.</p> <p>I know a range of ways to report concerns and inappropriate behaviour in a variety of contexts.</p> <p>I can form an opinion about the effectiveness of digital content.</p> <p>I am aware of cyberbullying, how it is similar to or different than in-person bullying, and learn strategies for handling cyberbullying should it arise.</p> <p>I know that the media can play a powerful role in shaping our ideas about girls and boys and gender roles.</p>	<p>effects of changing data variables in a model.</p> <p>I can communicate and exchange information and ideas with others, collaborating to develop and improve work.</p> <p><b>E-Safety</b></p> <p>I can use ICT safely and responsibly and know how to report concerns in and out of school.</p> <p>I can show awareness of strategies for guarding against identity theft and scams that try to access private information online.</p>	<p>I understand a range of ways to use ICT safely and responsibly, knowing how to handle situations or online behaviour which may make me feel uncomfortable.</p> <p>I can reflect on my responsibilities as creator and user of creative work.</p>
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