



## Year 5 Computing Age Related Expectations

All children are assessed against the Age Related Expectations (ARE) within the different curriculum subjects. The ARE's are taken from the National Curriculum but are consolidated to reflect what we expect of a child. For example, three or four national curriculum targets might be summarised in one ARE. Judgements are generally based on a variety of different sources but will generally be a combination of on-going formative assessment in class, book work and formal summative testing.

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world

	Key Performance Indicators	Age Related Expectations
<b>Computer Science</b>	<ul style="list-style-type: none"> <li>- Shows an awareness of tasks best completed by humans or computers.</li> <li>- Designs solutions by decomposing a problem and creates a sub-solution for each of these parts (decomposition).</li> <li>- Recognises that different solutions exist for the same problem.</li> <li>- Understands the difference between, and appropriately uses if and if, then and else statements.</li> <li>- Uses variable and relational operators within a loop to govern termination.</li> <li>- Designs, writes and debugs modular programs using procedures.</li> <li>- Knows that a procedure can be used to hide the detail with sub-solution (procedural abstraction).</li> <li>- Understands why and when computers are used.</li> <li>- Understands the main functions of the operating system</li> <li>- Understands how to effectively use search engines, and knows how search</li> </ul>	<p>By the end of year 5 a child can confidently:</p> <ul style="list-style-type: none"> <li>- Use a range of applications to create and edit a range of digital content e.g. image and audio files.</li> <li>- Use a Search Engine to efficiently search for digital content</li> <li>- Describe the safe and responsible approach to using online services, such as social media, and knows how to report concerns.</li> <li>- Organise and retrieve digital content they have created or edited.</li> <li>- Use a range of applications to present digital content, taking into account the needs of the audience.</li> </ul> <p>They can also clearly:</p> <ul style="list-style-type: none"> <li>- Describe different types of communications networks and give examples of their uses.</li> <li>- Identify the main functions of a computer operating system.</li> </ul> <p>In addition they can design, write, debug and then code algorithms, that include:</p>
<b>Information Technology</b>	<ul style="list-style-type: none"> <li>- Performs more complex searches for information e.g. using Boolean and relational operators. Analyses and evaluates data and information, and recognises that poor quality data leads to unreliable results, and inaccurate conclusions.</li> <li>- Knows the difference between physical, wireless and mobile networks.</li> <li>- Recognises the audience when designing and creating digital content.</li> <li>- Uses criteria to evaluate the quality of solutions, can identify improvements making some refinements to the solution, and future solutions.</li> </ul>	<ul style="list-style-type: none"> <li>- Appropriate use of IF, and IF THEN ELSE statements (selection).</li> <li>- Linked modular subsections.</li> <li>- Variables to determine when repetition ceases.</li> </ul>
<b>Digital Literacy</b>	<ul style="list-style-type: none"> <li>- Makes judgements about digital content when evaluating and repurposing it for a given audience.</li> <li>- Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns.</li> <li>- Recognises the audience when designing and creating digital content.</li> <li>- Uses criteria to evaluate the quality of solutions, can identify improvements making some refinements to the solution, and future solutions</li> <li>- Selects, combines and uses Internet services. Understands the potential of information technology for collaboration when computers are networked.</li> </ul>	