

Below outlines the learning focus for each term

**KS2 End Points:****Problem solving**

- design, write and debug programs that accomplish specific goals
- control or simulate physical systems
- solve problems by decomposing them into smaller parts

**Programming**

- use sequence, selection, and repetition in programs and to work with variables
- work with various forms of input and output

**Logical thinking**

- 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
- understand how networks can provide multiple services, such as the world wide web.

**Creating content**

- select, use and combine a variety of software (including internet services) on a range of digital devices
- design and create a range of programs, systems and content that accomplish given goals
- collect, analyse, evaluate and present data and information

**Searching**

- use search technologies effectively
- appreciate how search results are selected and ranked

**E-safety**

- use technology safely, respectfully and responsibly
- recognise acceptable/ unacceptable behaviour
- know a range of ways to report concerns and inappropriate behaviour
- be discerning in evaluating digital content
- understand the opportunities networks offer for communication and collaboration

Term	Learning Focus		Cross Curricular links
	Knowledge	Skills	
Autumn 1	<b>Computer Science</b> Espresso Coding 2.0 - More complex variables <ul style="list-style-type: none"> <li>● To use variables in more complex ways;               <ul style="list-style-type: none"> <li>❖ to change the properties of shapes on the screen</li> <li>❖ create an advanced balloon popping game which becomes more difficult as higher scores are reached</li> <li>❖ to write code for a shop till</li> <li>❖ to make a re</li> </ul> </li> <li>● To manipulate inputs to create useful outputs.</li> <li>● To understand that variables can be used to create logical statements that are either true or false (Boolean</li> </ul>	<ul style="list-style-type: none"> <li>● Use an ask command block</li> <li>● Create an interactive graph</li> <li>● Use variables to perform calculations</li> <li>● Test and debug programs</li> </ul>	Math – Data Handling

	<p>expressions)</p> <ul style="list-style-type: none"> <li>• Improve code by symmetrically testing and debugging it</li> </ul>		
Autumn 2	<p><b>Digital Literacy – Digital citizenship</b></p> <ul style="list-style-type: none"> <li>• Understand that there are different kinds of responsibilities and rights, and that they can sometimes conflict with one another</li> <li>• Understand why and how rules and laws are made and enforced, and why different rules are needed in different situations</li> <li>• Know what to do if someone violates their rights</li> <li>• Know the rights of social media companies using terms and conditions and why we need to be aware of them.</li> <li>• Know our rights as young people using social media and why we need to be aware of them.</li> <li>• Know what are terms and conditions and why do we read them carefully</li> </ul>	<ul style="list-style-type: none"> <li>• Think critically, behave safely and participate responsibly in the digital world</li> <li>• Have an awareness of online rights and responsibilities among younger people</li> <li>• Begin to develop resilience online and know how can terms and conditions help to empower us</li> </ul>	
Spring	<p><b>Multimedia - Film Making</b></p> <ul style="list-style-type: none"> <li>• Can create documents and presentations with a common design theme; consistency of font and style, alignment of text left, right and centre to improve the presentation of text</li> <li>• Can use text, photo, sound and video editing tools to refine their media/content</li> <li>• Can arrange video files to form a complete film using video software</li> </ul>	<ul style="list-style-type: none"> <li>• To plan additional elements for film-making such as locations and props</li> <li>• To evaluate whether information is reliable or not</li> <li>• To speak clearly into the camera when being recorded</li> <li>• To frame an appropriate filming shot when interviewing</li> </ul>	
Summer 1	<p><b>Computer Science</b> Espresso Coding 2.0 - Block Coding Level 6 – Object properties</p> <ul style="list-style-type: none"> <li>• Make programs using more complex algorithms, selecting when to use sequences, selection, repetition and a range of inputs and outputs.</li> <li>• How computers use property values and parameters to store information about objects</li> <li>• Use their knowledge of coordinates, conditional events, random numbers and variables to create a game.</li> <li>• To write code to detect the properties of objects and apply these to other objects.</li> <li>• Develop understanding of object properties by creating a football simulation game</li> <li>• Detect properties of objects and apply these to other objects</li> <li>• To decompose problems and plan, write and test their</li> </ul>	<ul style="list-style-type: none"> <li>• Use a timer loop with a 'random' variable set to a random range</li> <li>• Program the rocket to move around the screen</li> <li>• Program a ball to move</li> <li>• Set the ball's speed and heading to match those of the mouse pointer</li> <li>• Use knowledge about variables and conditional events to create a golf simulation game</li> <li>• Test and debug programs</li> </ul>	

	<p>algorithms and programs, detecting and correcting errors as needed</p> <ul style="list-style-type: none"> <li>• Improve code by symmetrically testing and debugging it</li> <li>• Can give a well-thought-through explanation of any errors they identify in program code</li> </ul>		
<p>Summer 2</p>	<p><b>Information Technology – Publishers</b></p> <ul style="list-style-type: none"> <li>• A magazine has a target audience. For a school magazine, this would be parents/carers, other members of the school community and pupils themselves.</li> <li>• Images in a magazine (as opposed to text) may be photographs, illustrations or diagrams.</li> <li>• It is best to use high-resolution images in a magazine, so that the quality is as good as possible.</li> <li>• <b>Creative Commons is a copyright licensing scheme in which content (like images and video) can be re-used without additional permission.</b></li> <li>• Templates can be used in desktop publishing software. Templates have defined font styles and help to keep the font consistent across many pages. *</li> <li>• Shared folders should be well organised, for example with files named to indicate the content within. <b>It is important to work respectfully and responsibly when using shared resources.</b></li> <li>• Documents can be exported as PDF files ('Portable Document Format' files).</li> <li>• A PDF file can be used to review a magazine as it enables you to see what a printed magazine would look like and can be shared easily online while allowing comments to be managed easily.</li> <li>• Some corrections and feedback marked onto the magazine might require discussion (for example wanting an author to add an extra paragraph to fill space) and others would not (for example spelling mistakes).</li> <li>• ePub is an example of an eBook format.</li> </ul>	<ul style="list-style-type: none"> <li>• Help plan and develop pages for a magazine.</li> <li>• Use collaborative software to plan and create a magazine. .</li> <li>• Word-process text to a good standard.</li> <li>• Find and add images and other media to my pages.</li> <li>• Can use text, photo, sound and video editing tools to refine their media/content</li> <li>• Spot and correct errors in content.</li> <li>• Understand the principles of good design.</li> <li>• Provide constructive feedback to others.</li> <li>• Compare the cost of printing options</li> </ul>	<p><b>English - this provides a meaningful experience in which pupils write for a specific audience while honing spelling, punctuation and grammar skills.</b></p> <p><b>Art and design - the design elements of the project can draw on pupils' own talents developed in art and design.</b></p>
<p><b>Intent</b>  We know that computing and digital technology is going to play a pivotal role in our children's lives and as a result we aim to develop 'thinkers of the future'. We aim for our children to be digital creators rather than just consumers when using technology and to equip them to navigate the rapid and extraordinary changes taking place in digital technology effectively and safely.</p> <p>Our curriculum, encompassing computer science, information technology, digital literacy and online safety, is progressive, ambitious and carefully sequenced. Children</p>			

know that they need to face and overcome challenge in computing lessons; they accept that they will fail, will need to persevere and develop skills as logical, computational thinkers. We offer children access to a wide range of software, platforms and devices to help them, using technology as a tool for both creativity and learning. We want our children to be active participants in the digital world, whilst ensuring they are respectful, responsible and confident users; children will constantly be made aware of measures they can take to keep themselves, and others, safe online.

### **Implementation**

Our children follow a carefully structured Computing curriculum which has been designed to ensure children know more, do more and remember more as they progress through our school. Our content is supported by advice, requirements and guidelines presented in the National Curriculum.

Computing is taught weekly. Detailed medium-term planning supports teaching, ensures continuity and carefully plans for progression and depth. Children have opportunities to use high quality resources and materials to support their learning. Wider Curriculum links and opportunities for the safe use of digital systems are considered in wider curriculum planning.

Our computing curriculum is inclusive for all children; each lesson is sequenced so that it builds on the learning from the previous session. Where appropriate, activities are scaffolded so that all children can succeed, children may be provided with extra resources and support, such as visual prompts, so that they can reach the same learning points as the rest of the class.

### **Impact**

A high quality computing education aims to develop a range of programming and technological skills that are transferable to other curriculum areas, including Science, Mathematics, English and History. As pupils progress through KS1 and KS2 children will become increasingly confident in:

- The application of their digital skills,
- Becoming increasingly efficient and effective communicators, collaborators and analysts,
- Showing imagination and creativity in their use of ICT in different aspects of their learning and life beyond school.
- E-safety and the risks involved when using the internet.

The impact of the computing curriculum is assessed continuously against the age-related expectations in computing for each year group. In doing so, we are ensuring that the necessary support is provided for all children to have a good understanding of the primary computing curriculum whilst allowing us to effectively differentiate tasks for students.

Other methods of judging the impact of the computing curriculum offered are through the following methods:

- Pupil discussions and interviewing the pupils about their learning (pupil voice).
- Monitoring planning of lessons by the subject lead and providing feedback.
- Photo evidence and images of the pupils' practical learning.
- Monitoring of children's work.