



Amberley CE Primary School



St. James' CE Primary School,
Coldwaltham



Enabling every child to thrive and succeed

At Arun Villages Federation, we care for EVERYONE. We embrace challenges and all opportunities to learn, recognising the value of education and persevering even when it feels difficult.

We are uncompromising in our aspirations, proud of our – and each other's - achievements and look forward to embracing the experiences the wider world offers.

Respect, Kindness, Honesty, Positivity and Teamwork

SUBJECT: Computing

Intent:

Across the Arun Villages Federation, we aim to prepare our children for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Gaining a deeper knowledge and understanding of Computing is of increasing importance for children's future both at home and for their future employment. Our Computing curriculum focuses on a progression of skills in digital literacy, computer science, information technology and online safety to ensure that children become competent in safely using, as well as understanding, technology.

Our intention is that Computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school and beyond. We aim to develop 'thinkers of the future' through a modern, ambitious and relevant education in Computing. We want to equip pupils to use computational thinking and creativity that will enable them to become active participants in the digital world. It is important to us that the children understand how to use the ever-changing technology to express themselves, as tools for learning and as a means to drive their generation forward into the future.

Whilst ensuring they understand the advantages and disadvantages associated with online experiences, we want children to develop as respectful, responsible and confident users of technology, aware of measures that can be taken to keep themselves and others safe online.

Our aim is to provide a Computing curriculum that is designed to balance acquiring a broad and deep knowledge alongside opportunities to apply skills in various digital contexts. Beyond teaching computing discretely, we will give pupils the opportunity to apply and develop what they have learnt across wider learning in the curriculum, encompassing cultural and diverse icons throughout history who have had an important part to play in the development of technologies and methodologies which have had a lasting impact up to the modern day.

Implementation:

Our curriculum is taught through discrete Computing lessons with links to the wider curriculum. Cross-curricular links are built into the discrete lessons. We follow the Teach Computing Scheme of Work, which is mapped to the National Curriculum, and resources to provide a progressive knowledge-based curriculum throughout the school. The units for Key Stages 1 and 2 are based on a spiral curriculum. This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme. This style of curriculum design reduces the amount of knowledge lost through forgetting, as topics are revisited yearly. It also ensures that connections are made even if different teachers are teaching the units within a theme in consecutive years.

Impact:

The children are assessed using criteria within the Teach Computing scheme of work and aligned to the National Curriculum outcomes at the end of each unit they complete. As a result of strong teaching and learning, children will be digitally literate and will be competent and safe users of technology, able to benefit from their learning and support their continued learning across the AVF of schools. As children become more confident in their abilities in Computing, they will become more independent, more creative and key life skills such as problem-solving, logical thinking and self-evaluation become second nature. We want children to understand the consequences of using the internet and that they are also aware of how to keep themselves safe online.

Computing Overview – Whole School Cycle

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS						
Key Stage 1	<p>Computing systems and networks 1 Technology around us</p> <p>Recognising technology in school and using it responsibly</p>	<p>Creating media Digital painting</p> <p>Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.</p>	<p>Programming A Moving a robot</p> <p>Writing short algorithms and programs for floor robots, and predicting program outcomes.</p>	<p>Data and information Grouping data</p> <p>Exploring object labels, then using them to sort and group objects by properties.</p>	<p>Creating media Digital writing</p> <p>Using a computer to create and format text, before comparing to writing non-digitally.</p>	<p>Programming B Programming animations</p> <p>Designing and programming the movement of a character on screen to tell stories.</p>
	<p>Computing systems and networks 1 Information technology around us</p> <p>Identifying IT and how its responsible use improves our world in school and beyond.</p>	<p>Creating media Digital photography Capturing and changing digital photographs for different purposes.</p>	<p>Programming A Robot algorithms Creating and debugging programs, and using logical reasoning to make predictions.</p>	<p>Data and information Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.</p>	<p>Creating media Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.</p>	<p>Programming B Programming quizzes</p> <p>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.</p>
Key Stage 2	<p>Connecting computers</p> <p>Identifying that digital devices have inputs, processes, and outputs, and</p>	<p>Stop-frame animation</p> <p>Capturing and editing digital still images to produce a stop-frame</p>	<p>Sequencing sounds</p> <p>Creating sequences in a block-based programming language to make music.</p>	<p>Branching databases</p> <p>Building and using branching databases to group objects using yes/no questions.</p>	<p>Desktop publishing</p> <p>Creating documents by modifying text, images, and page layouts for a specified purpose.</p>	<p>Events and actions in programs</p> <p>Writing algorithms and programs that use a range of events</p>

	how devices can be connected to make networks.	animation that tells a story				to trigger sequences of actions.
	<p>The internet</p> <p>Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.</p>	<p>Audio production</p> <p>Capturing and editing audio to produce a podcast, ensuring that copyright is considered.</p>	<p>Repetition in shapes</p> <p>Using a text-based programming language to explore count-controlled loops when drawing shapes.</p>	<p>Data logging</p> <p>Recognising how and why data is collected over time, before using data loggers to carry out an investigation.</p>	<p>Photo editing</p> <p>Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.</p>	<p>Repetition in games</p> <p>Using a block-based programming language to explore count-controlled and infinite loops when creating a game.</p>
	<p>Systems and searching</p> <p>Recognising IT systems in the world and how some can enable searching on the internet.</p>	<p>Video production</p> <p>Planning, capturing, and editing video to produce a short film.</p>	<p>Selection in physical computing</p> <p>Exploring conditions and selection using a programmable microcontroller.</p>	<p>Flat-file databases</p> <p>Using a database to order data and create charts to answer questions.</p>	<p>Introduction to vector graphics</p> <p>Creating images in a drawing program by using layers and groups of objects.</p>	<p>Selection in quizzes</p> <p>Exploring selection in programming to design and code an interactive quiz.</p>
	<p>Communication and collaboration</p> <p>Exploring how data is transferred by working collaboratively online.</p>	<p>Webpage creation</p> <p>Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.</p>	<p>Variables in games</p> <p>Exploring variables when designing and coding a game.</p>	<p>Introduction to spreadsheets</p> <p>Answering questions by using spreadsheets to organise and calculate data.</p>	<p>3D modelling</p> <p>Planning, developing, and evaluating 3D computer models of physical objects.</p>	<p>Sensing movement</p> <p>Designing and coding a project that captures inputs from a physical device.</p>