

Intent:

At Broadfield Academy, we value Computing as an important part of the children's entitlement to a broad and balanced curriculum and believe that a high quality Computing education that 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 three main areas of our Computing curriculum are: computer science, information technology and digital literacy. 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. Our curriculum aims to help pupils with the understanding of Computer Science. We believe that a high-quality Computing curriculum builds on this knowledge and equips pupils to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate and are able to use, and express themselves and develop their ideas through, information and communication technology. Being digitally literate means pupils are suitably skilled for the workplace and are active participants in a digital world. We ensure that all pupils, wherever they start in life, have a high quality, cultural education as we believe this should be a right, not a privilege.

E-Safety:

Our whole school approach to E-safety helps to ensure children are taught how to stay safe online – both in and outside of school. E-safety is an essential aspect of the curriculum as it equips pupils with the skills to fully utilise the internet and technology in a safe and respectful way. We address the principles of online safety and teach them in an age appropriate way. We encourage pupils to ask questions, seek advice and raise concerns about the fast-growing internet. It is an exciting time for pupils, but it also creates challenges and dangers. It is our duty to teach pupils how to conduct themselves in a respectable manner online. These behavioural skills should replicate positives ones that are taught offline. Pupils will have the skills to analyse why people behave differently online, display intensified online emotions and consider unacceptable online behaviour.

The aims of our Computing curriculum is to deliver a curriculum that is accessible to all pupils, so they know more, remember more and understand more. Our Computing curriculum aims to:

- ✚ Give pupils the opportunity to analyse, order and solve problems which will provide pupils with the skills to become digitally literate, a skill which we see as vital for our pupils to possess in order to be successful in their future careers.
- ✚ Give pupils the opportunity to unlock and explore their innate digital creative potential and develop their digital confidence, competence and curiosity.
- ✚ Understand key concepts related to e-safety and know how to be digitally safe.
- ✚ Learn about key people who have significantly shaped our lives as a result of digital innovation, and use this as a foundations to express their own digital creative ideas.
- ✚ Become independent and critical thinkers, who can 'think outside the box' and have the creative digital confidence to take risks.
- ✚ Develop reflection skills and understand this is part of the creative digital process.

Implementation:

At Broadfield Academy, we use Purple Mash as our main scheme of work to teach Computing. Our Computing curriculum follows the guidance stated in the National Curriculum. Lessons follow a clear and consistent teaching sequence. Computing is taught as an independent subject and aspects if it naturally occur in other curriculum subjects. Topics are mapped out on the teacher's Computing planning document. We expect all our teachers to follow the sequence outlined on the curriculum overviews. The cross curricular nature of Computing offers a setting for children to apply knowledge and skills linked to nearly all other curriculum subjects. Our Computing curriculum has been designed to provide a wealth of learning opportunities as it is woven throughout many subjects. The design of our Computing curriculum allows pupils time to revise and revisit key concepts as well as build upon prior knowledge to develop transferable skills, which will be valuable in their future learning.

The National Curriculum for Computing aims to ensure that all pupils:

- ✚ Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- ✚ Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- ✚ Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- ✚ Are responsible, competent, confident and creative users of information and communication technology.

Pupils begin their journey as artists in EYFS where they progress through the EYFS curriculum with Understanding of the World and then progress onto the National Curriculum in Key Stage One and Two.

Through our engaging Computing curriculum, we give our pupils many opportunities to be digitally successful and confident, so they leave primary school with the skills and knowledge necessary to progress to the next stage of their digital and Computing education.

We believe our pupils receive rich, deep learning experiences that teach pupils to analytically solve problems on new or unfamiliar technologies. We enable them to explore, analyse and present digital information with a clear progression of skills throughout the year groups. This ensures that learning is embedded and that pupils are competent in safely using and understanding technology. Key concepts and skills are revised and revisited regularly.

A strong focus for teaching is the use of correct technical vocabulary and digital skill. Teachers carefully plan and model vocabulary and digital skills through discussion and subject specific vocabulary, so pupils can embed learning into their long term memory.

Scheme of Work:

We use the **Purple Mash** scheme of work to develop Computing skills. We believe that a clear and effective scheme of work that provides coverage in line with the National Curriculum is essential to meet the requirements of our children in order for them to thrive. To ensure that children are being exposed to high-quality lessons focusing on the skills and knowledge required to be successful 'computational thinkers', we have invested in Purple Mash. This ensures that all key areas of the computing curriculum are taught and revisited during a child's primary school years. This allows our children to build on their learning year after year, building on their vocabulary and to also practice skills where they may not be as confident and likewise, progress their knowledge and skills even further.

Please see the Computing curriculum overview for further information regarding what Computing skills are covered in each year group.

Research:

As part of the Computing curriculum, pupils are given opportunities to use a variety of research mediums to develop independent thinking and promote curiosity by utilising internet search engines, books and discussions. This allows pupils to lead their own learning and feed their inquisitiveness and raise their engagement in this subject.

Basic Skills:

English, Maths naturally occur within the Computing curriculum and are taught discretely and interwoven into the various topics within the Computing curriculum. This enables pupils to apply and embed the skills they have learnt in a purposeful context.

Cultural Capital:

Where possible, we do our best to make Computing come alive! We plan trips, visits, invite speakers in to provide first-hand learning experiences to support and develop life-skills. We recognise that to have impact, the planned cultural capital must be clearly linked to current learning, so it can be acquired and applied to what pupils already know. We also ensure that our pupils have access to up to date laptops / chrome books, so they can actively take part in the Computing curriculum.

Impact:

As there are no national standards for Computing, we assess the subject holistically and over time. To do this, we use our school's Computing progression map to assess progress. Teachers use this information to inform future lessons; ensuring children are supported and challenged appropriately. This data is analysed to inform and address any trends or gaps. Final end of year assessments are made using teacher judgements. Teacher judgements are based on progress made in class, work completed by pupils and by using the Computing progress maps.

Children in Foundation Stage are assessed within Understanding of the World, and their progress is tracked termly. Age related expectation levels are reported to parents at the end of the Reception year. By the end of KS2 we aim to have produced pupils who are digitally literate and feel assured in their own digital abilities, skills and knowledge. With the rapidly changing world of technology, we see these skills as fundamental in building confident and creative independent learners who can safely use technology.

Ultimately, the impact of each pupils' Art & Design curriculum journey will enable them to:

- + Know more, remember more and understand more about Computing, and be ready for the next phase of their digital and Computing journey.
- + Develop strong skills, knowledge and understanding of Computing as outlined by the National Curriculum, the school's Computing progress map and be able to transfer their learning in school and beyond.
- + Show understanding of the concepts of computer science, including abstraction, logic, algorithms and data representation.
- + Analyse problems in computational terms, and have repeated experiences of writing computer problems in order to solve problems.
- + Evaluate and apply information technology analytically to solve problems.
- + Know why e-safety is important and know how to be digitally safe.
- + Be confident and competent users of ICT.
- + Reflect on their learning and use this to influence the decisions they make now and in the future.