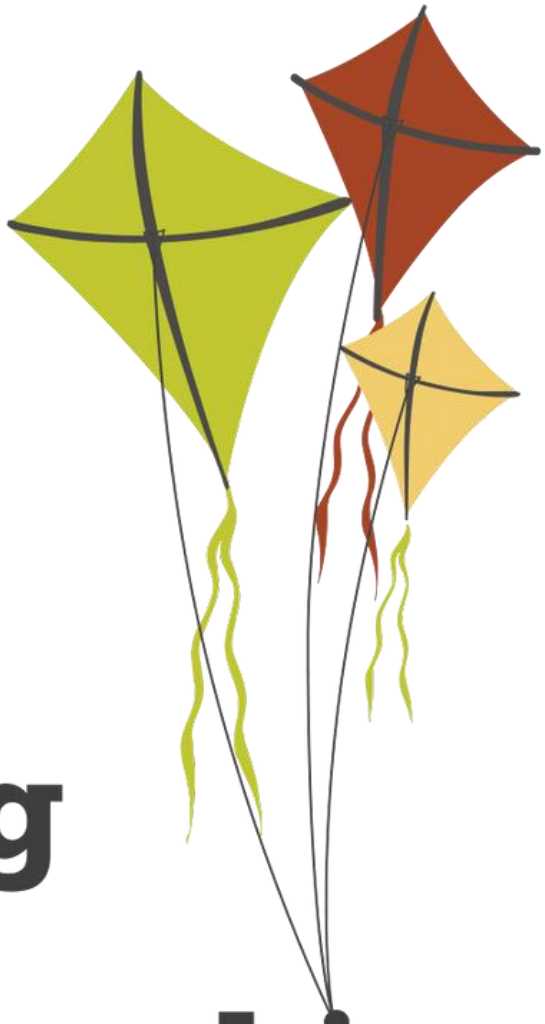

Flying High Partnership

Computing policy

Safely becoming active participants in the digital world

Last reviewed on:	29/11/2023
Next review due by:	Sept 2024

Vision

Our FHP curriculum model, underpinned by current research and statutory documentation (such as the National Curriculum and EYFS framework), ensures our children will be well-rounded individuals who are prepared for the next stage of their journey. It will promote compassion, mutual understanding, integrity and a pursuit of excellence in order for our children to reach their potential and make a positive contribution to the wider world. Our enquiry-based approach takes children on a journey of memorable learning through rich and purposeful experiences, culminating in authentic outcomes which leave a social legacy. We communicate our vision through the acronym, '**CHROME**'.

Character and Heart	to develop individuals who are resilient and show compassion and integrity.
Relevance	to ensure our children's backgrounds and needs, along with our current culture, climate and events, determine the content of our curriculum.
Opportunities	to enable children to move beyond their lived experiences, further developing their cultural capital
Memorable learning	to secure children with transferable knowledge they need for subsequent learning
Empowerment	to enable children to be aspirational, reflect on their learning, take risks, be brave, ask questions, solve problems, evaluate, develop peer critique methods and take ownership of their learning to increase their cultural capital.

Computing Vision

At FHP, we create enthusiasm and excitement through the use of technology. We empower the children to use technology purposefully throughout our computing curriculum to prepare them for the digital world and future life. Through the use of collaboration, critical thinking and problem solving, our children will learn how to thrive in the digital world. Our children can talk about the importance of computing within the whole curriculum as well as effectively talk about key terminology and how it applies within the real world. Computing captures the imagination of our children and allows them to become critical thinkers, both in the digital world and the world in general. Our children learn to debug problems, formulate simple and complex algorithms, safeguard themselves and others online and become digitally literate.

Aims

Our computing curriculum aims for pupils to:

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

We are aspirant for all children to leave Mapplewells Primary School as digital citizens and have clearly defined end points for each year group and the whole primary phase to ensure we meet this aim. Please see appendix A: 'As Digital Citizens' for our end of primary phase poster.

Intent

At Mapplewells Primary School, our curriculum is based on the National Curriculum for Key Stages 1 & 2 and the Early Years Foundation Stage Framework. These documents stipulate the expectations which inform the intent of our curriculum, ensuring a high ambition for all. Further ambition is gleaned through the use of expert resources from the STEM Association.

Statements from the National Curriculum for computing have been broken down and sequenced into strands and year groups. We call this a key knowledge progression document (KKPD). While the educational programme of EYFS

no longer references computing, our KKPDs have planned for, and have sequenced, knowledge from Nursery through to Year 7. Our KKPDs fit within the EYFS framework 'understanding the world'. They contain key substantive, procedural and disciplinary knowledge that children need to know and remember.

Composite knowledge from the KKPD is mapped on to a whole school long-term plan and sequenced onto a computing subject map. Links are made across year groups and subjects through deliberate and diverse content choices. Provide specific computing examples.

Each computing KKPD statement is broken down into component (granular) knowledge and key vocabulary and can be found in our component knowledge progression document (CKPD). These are used to support the creation of learning sequences and to identify 'sticky knowledge' – the most important knowledge children need to remember for the next stage.

Within the KKPD are clearly defined curriculum end points which capture the knowledge, skills and understanding that children should have at the end of each year. They build progressively over time so that children leave Year 6 well-prepared for the next stage of education as competent and capable digital citizens.

For subject leaders, they provide a clear overview of the end of year expectations for each year group, which will support the planning and assessment of the curriculum.

For teachers, they provide further clarity around what children should be able to do at the end of each year, using the knowledge they have gained from being taught the KKPDs. They support teachers to plan activities that help to develop children as effective digital citizens. They should be used to check what children know and how well they can apply this knowledge across the curriculum.

For children, they ensure that they receive an equitable curriculum which gives them the substantive, procedural and disciplinary knowledge needed to be successful in their future studies.

The computing KKPD and CKPD are used by teachers to create learning sequences and objectives with the end points in mind. These are plotted on an enquiry or a discrete medium-term plan.

Please see Appendix B: 'Curriculum Structure Flowchart' for further information.

Implementation

The curriculum at Mapplewells Primary School is delivered through an enquiry approach, with computing usually taught discretely. Computing can be delivered as an enhancer to an enquiry (when this enables children to answer the enquiry question to its fullest).

Individual lessons are planned in detail using our lesson design model. This has been informed by leading research such as Rosenshine's principles of instruction. The model includes five, flexible elements:

- Reactivate
- Teach, facilitate, model
- Learning together
- Independent practice
- Reflection

We use a range of varied teaching strategies to deliver computing lessons. We believe in whole-class teaching methods as well as collaborative learning within computing. Within XXXXX Primary School, we have access to a range of different technology such as: laptops, iPads, BeeBots and Crumble Kits.

Our learning environments are used as immersive and instructional teaching tools. Learning journeys are organised with key knowledge and vocabulary accessible so that children can locate and use this key information easily and efficiently.

Impact

Our carefully planned curriculum is the model of progression in computing. We strive for our children to know, remember and understand more of what they have been taught. We use the Leitner system with our sticky knowledge flashcards to help 'interrupt the forgetting' and ensure that sticky knowledge is retained.

Sticky knowledge is assessed at the end of an enquiry through completion of a double page spread which demonstrates pupil's knowledge and understanding by answering the enquiry question. Cumulative sticky knowledge quizzes take place throughout the unit of study. Quiz scores are to be retained and shared with the computing subject lead.

Knowledge organisers are used as a point of reference to support the acquisition of key vocabulary and sticky knowledge and can be used for both retrieval and self-quizzing practices.

Interleaving assessment of our 'sticky knowledge' is carefully planned on medium term plans and displayed in our classrooms.

All assessment practices allow teachers to garner evidence towards the computing curriculum end points and informs where subsequent teaching needs to focus to close any gaps. This evidence forms a capture of how well our children are performing across the school within computing.

Our Partnership has developed a comprehensive subject leadership toolkit. We have ensured that all subject leaders have received training on this. The document provides a range of monitoring tools including a methodology for checking the quality of education that pupils receive in computing. We call this methodology a 'focused review'. This tool allows us to monitor, check and connect evidence together to form robust judgements about the quality of education that pupils receive in computing. We use work scrutiny, pupil discussions and lesson visits effectively to achieve this.

Children with special educational needs and/or disabilities (SEND)

At our school we teach computing to all children. Computing forms part of the school curriculum to provide a broad and balanced education to all children. We want all our children to access an ambitious computing curriculum. We believe in scaffolding up, and not dumbing down, the computing curriculum. A number of adaptations are available for children who have additional barriers to their learning. These can be seen in our computing adaptation document (appendix C). These have been shared with teachers to give them ideas on how to adapt lessons.

Where accessing reading materials could be a barrier (e.g., lowest 20% of readers), we include visual and audible scaffolds.

Staff professional learning

As part of the Flying High Partnership, our staff have access to a professional learning community, where computing leads from all Partnership schools work together to share best practice, discuss scholarly developments and strategically develop and plan our vision for the next steps in our computing curriculum. This expertise is then shared across the staff team through staff meetings and INSET training sessions.

Equal opportunities

It is important that teachers plan work that offers equal opportunity in respect of protected characteristics. For example:

- by ensuring that activities are carefully planned to meet the needs of all children and ensure scaffolds are available to the children who need more support
- by ensuring that computing is taught to all and that the materials used provide a 'mirror' and 'window' to the wider world
- by ensuring that multi-cultural themes are explored so that children are encouraged to develop awareness, interest and tolerance towards people and places beyond their immediate experience