

Gillespie Primary School



Curriculum Intent, Implementation & Impact Computing

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Computing

Intent

The goal of the computing curriculum is for children to build their computational thinking and creativity in order to understand, contribute to and make a real difference in the highly digital world in which we all now live. We share the ambition of the national curriculum to provide a high quality computing education which: *'equips pupils to use computational thinking to understand and change the world'*

The computing curriculum is divided into three strands: Computer Science, Information Technology and Digital Literacy. Computer Science is central to the curriculum. Children need to understand how digital systems work and be able to apply this knowledge through programming. They must be able to use a variety of forms of information technology in a range of contexts. It is also vital that they are supported to build digital literacy so they can navigate the digital world, communicating and expressing themselves effectively.

Computing has strong links with so many other curriculum areas and it is our aim to make these links explicit to the children, providing them with the opportunity to apply their computing skills in the context of other areas of learning. This not only helps them to understand the real-life purpose of their learning, but also increases the likelihood that their learning will be long term.

Implementation

We follow the 'Purple Mash' computing scheme which meets the requirements of the national curriculum and is aligned with the three strands of computing and progressively builds knowledge that is applied as skills. The order of units covered across the academic year is determined by how the units can be linked with other curriculum areas. Wherever possible, teachers adapt, extend or replace the planning provided to facilitate cross-curricular outcomes. In these circumstances, the more general National Curriculum objectives that apply for the area replace those of the Purple Mash unit.

Each unit within the scheme begins with a 'Knowledge Organiser' that contains the key learning and vocabulary for the unit and the resources that will be used. This gives teachers the opportunity to elicit from children what they already know and explain how they will be building on this in their new learning. It also ensures that children are aware of the vocabulary they need to understand from the outset, allowing the children to familiarise themselves with it before coming across it in context.

Every lesson has a detailed plan and slideshow that are consistently organised with clear aims, success criteria and resources. The slideshows are interactive and contain examples that can be used to clearly demonstrate a principle or to complete as a class. Teachers are encouraged to edit these as necessary to meet the needs of their class. Additional support videos are accessed for coding and spreadsheets units by those teachers requiring subject knowledge support in these areas.

For each lesson, tasks are set on Purple Mash via '2Dos' that are stored in the Purple Mash cloud. Integrated into every lesson plan is the opportunity to assess against the success criteria, supporting teachers to monitor progress against each learning objective, identify misconceptions and address these as a class to move learning forward. Teachers are able to access catch-up units as required to address gaps and provide less able pupils with additional opportunities to embed key learning.

An interactive, virtual classroom 'Mini Mash' is used in used in Early Years classes to support working towards the Early Learning Goals. Where possible, this makes use of resources that specifically relate to their overarching topic. Early Years classes also complete unplugged coding activities, creating and following a basic algorithm.

Every year, we participate in the worldwide 'Hour of Code'. Although coding is embedded throughout the computing curriculum, celebrating coding in this way raises its profile further and provides children with the opportunity to explore a wide range of coding activities. Children in the older year groups pair with those in the Early Years, working together to create a simple programme. For many children, the Hour of Code does not stop but instead extends to home learning as they are eager to continue with their favourite coding activities at home.

Keeping children safe online is an absolute priority. At the beginning of each academic year, teachers discuss the child-friendly Acceptable Use Policy with their classes and then all children sign it and it is displayed on the classroom wall as a reminder of how to stay safe online. Online safety units are included in the planning for every year group. We participate in 'Safer Internet Day' each year in order to further emphasise to our children the importance of staying safe online and to raise awareness of current issues that children may face. Online safety is also addressed in the annual 'Anti-Bullying Week' when cyberbullying is always included as an issue that we must all stand together against.

Children have access to a range of digital devices including iPads, laptops, desktop computers and data loggers to support their learning in computing and the wider curriculum. For example, iPads are used to access the 'Google Earth' app when learning about human and physical features of areas and also the 'Reading Eggs' website when children are working through our online reading programme. Laptops are used by a group of children targeted for writing intervention to access the online writing programme 'Night Zookeeper'. Data loggers are used whenever appropriate in science investigations, enabling more precise data gathering that can then be represented in graphs and charts.

We have a computer suite the children voted to be named 'Electronic World' that contains 30 desktop computers. All class have a weekly fixed hour session in Electronic World and then additional sessions are included whenever children are required to use their computing skills to create content for other curriculum areas. The desktop computers are coordinated by the programme 'ABTutor' through which teachers are able to view and interact with all screens simultaneously. This programme is used to demonstrate processes that children view on their individual monitors. Teachers can also use it to launch applications and send feedback messages to support and extend learning.

All classes have their own 'Google Classroom' through which children access a range of activities set for different subjects. When learning remotely, classes use 'Google Meet' to have daily virtual lessons that are then followed up with assignments posted on Google Classroom. It is also where children can communicate with one another and share their ideas, experiences and creations throughout the year.

Impact

By the end of their primary learning journey, children are able to use a range of digital devices with confidence and in a responsible manner. They are able to recognise unacceptable online behaviour and know how to deal with it. They appreciate the value of technology in solving problems and are able to use search engines effectively, giving careful consideration to the accuracy and reliability of their findings. Pupils have developed the skills and understanding to prepare them to successfully engage with Computing at Secondary school.

Measuring impact of learning in computing

- *Feedback in lessons and formative Assessment*

Teachers use diagnostic assessment during lessons to provide immediate feedback. Integrated into every Purple Mash lesson plan is the opportunity to assess against the success criteria, supporting teachers to monitor progress against each learning objective, identify misconceptions and address these as a class to move learning forward.

- *Summative Assessment*

Documents accessible in year group folders and personal folders for each child within Purple Mash provide a profile of work and learning outcomes which demonstrate that children are able to design, build and debug computer programmes and can use information technology purposefully, organising and presenting information in a variety of ways such as databases, spreadsheets, graphs, stories, animations, quizzes, presentations and blogs.

Further implementation of summative assessment using the Purple Mash scheme is planned for the academic year 2022-23. At the end of each unit, teachers will complete an assessment of their class informed by the success criteria for each unit and a summary statement of what a child working at the expected standard would be able to demonstrate

- *Monitoring of teaching and learning and work surveys by subject leaders and senior leaders*

- > Termly detailed surveys of outcomes in pupil Purple Mash computer files provides information about the progress and understanding of individual pupils and enables leaders to give quality feedback to teachers on the impact of their sequence of lessons and to plan INSET to secure whole school improvement .

Staff regularly moderate by sharing pupil work, focusing on outcomes and progression between year groups and within a year.

- > Lesson observations provide insight into how effectively computing knowledge, skills and concepts are taught to ensure all pupils are able to make progress. Individual feedback is given to support professional development and a summary of all lessons observed enables the staff team to share strengths and areas for development to secure improvement in the teaching and learning of computing.