Golden Valley Primary School Guidelines for Computing

Intent

In line with the 2014 National Curriculum for Computing, our aim is to provide a high-quality computing education that equips children to use computational thinking and creativity to understand and change the world. The curriculum will teach children new knowledge about how computers and computing systems work, and how they are designed and programmed. Learners will have the opportunity to gain an understanding of computational systems of all kinds, whether or not they include computers.

Our intent is that…

- Children will be active and safe participants in the digital world, through explicit teaching of computational skills, information technology and online safety.
- Children will understand how to use information technology to support and enhance their learning.

Role of the Subject Leader

The Computing Subject Leader and Senior Leadership Team (SLT) will assess and address staff training needs as part of the School Development Plan. Individual teachers should continually develop their own skills and knowledge, identify their own needs and notify the subject leader to make requests for additional training or support throughout the year. The SLT are also Online Safety Leads and are responsible for ensuring that online safety training is provided in accordance with the Online Safety Policy.

Teachers are encouraged to use technology and computing to produce plans, reports, communications and teaching resources. The ICT technician supports staff to overcome technical issues with computing technology across the school. The technician also liaises and access support from the technical support desk (currently 2IT) as and when required. The subject leader will oversee the ICT technician maintaining and ordering new equipment to support the computing curriculum. The subject leader will also ensure high standards across the computing curriculum through effective monitoring, modelling of lessons, and support with planning, as appropriate.

Implementation

Teaching and Learning

At Golden Valley, computing is discretely taught using a blocked curriculum approach which can be seen on the whole school computing overview. This ensures children are able to develop depth in their knowledge and skills over the duration of each of their computing topics. Computing skills are also developed as part of our wider curriculum and children have many opportunities to use computers and other technology in their daily lives at school.

The computing subject leader and curriculum lead work together to co-ordinate and support the development of computing throughout the school. It remains the responsibility of each teacher to deliver appropriate computing activities and to monitor and record pupil progress in computing. Teachers' own use of technology in lessons is also an essential tool for the preparation of engaging, fast moving, motivating lessons for pupils and the computing subject leader will keep teachers up to date on the latest uses of technology.

Planning and Resources

Planning: Purple Mash.

Teachers use Purple Mash Computing as a starting point for the planning of their computing lessons, which are often richly linked to engaging contexts in other subjects. Knowledge, skills and vocabulary are mapped across each unit and year group to ensure systematic progression. Teachers may then further adapt planning to meet the needs of the class. The areas of study are divided into Computer Science, Digital Literacy, Information Technology (including Online Safety). The scheme supports clear progression of skills from Reception to Year 6. Teachers of all levels of experience are supported by the software demos and detailed step by step planning.

Resources

We have a computer suite with 34 computers, as well as a class set of laptops and iPads to support independent learning in the classroom environment. We ensure that all year groups have the opportunity to use a range of devices and programs for many purposes across the wider curriculum, as well as in discrete computing lessons. In upper KS2, where possible, the computing curriculum is also enhanced by specialists, enabling the children to access more sophisticated equipment.

The children will have broad experiences in each year group and the subject knowledge imparted becomes increasingly specific and in depth, with more complex skills being taught, thus ensuring that learning is built upon. For example, children in Key Stage 1 learn what algorithms are, which leads them to the design stage of programming in Key Stage 2, where they design, write and debug programs, explaining the thinking behind their algorithms. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught. The implementation of the curriculum also ensures a balanced coverage of computer science, information technology and digital literacy.

Each classroom has a laptop linked to the network, an interactive whiteboard and an iPad. Additionally, each teacher has a laptop for home-working, again linked to the shared network. Each key stage has at least one colour photocopier which is networked to all computers.

Equal Opportunities and Inclusion

Golden Valley Primary School will ensure that all children are provided with equitable learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. We work hard to generate an inclusive environment where pupils and staff show respect for one another. All pupils have equal access to computing and all staff members follow the equal opportunities policy. Resources for children with SEND and children who are working above Age Related Expectations (ARE) are made available to support and challenge appropriately.

All children have the right to access the computing curriculum and teachers adapt their teaching and learning tasks and activities to ensure appropriate level of challenge is provided for all pupils. Where appropriate, additional technology is used to support children with SEND on a one to one basis. Additionally, in our approach to all teaching and learning, we use adapted resources wherever possible such as visual timetables, different coloured backgrounds and screen printouts.

Parents and Carers

Parental/carer involvement is highly encouraged, particularly where a parent has specific expertise to offer. Parents will be regularly informed of when their children are learning about Online Safety to ensure the conversation can continue at home. Parents are encouraged to support their children's learning at home using computer/tablet based learning. Examples of this include Bug Club, Times Table Rockstars, MyMaths, Teach Your Monster to Read.

Impact

Our approach to the computing curriculum results in a fun, engaging, and high-quality education. Pupils share and evaluate their own work as well as that of their peers. Evidence such as this is used to feed into teachers' future planning and teachers are able to revisit misconceptions and knowledge gaps in computing when teaching other curriculum areas. This supports varied paces of learning and ensures that all pupils make good progress.

Much of the subject-specific knowledge developed in our computing lessons equips pupils with experiences that will benefit them in secondary school, further education and future workplaces. Through the development of research methods; use of presentation and creative tools; confidence when problem solving and coding; analytical skills; critical thinking; and online safety, the computing curriculum at Golden Valley gives children the building blocks that enable them to pursue a wide range of interests and vocations in the next stage of their lives.

The progression of skills and vocabulary is evidenced in the whole-school planning document. Teachers carefully track the coverage of each area of study and use forms of assessment to understand the impact of their teaching.

Formative Assessment

Self-assessment

In line with the National Curriculum, children are taught to debug their own programs, use logical reasoning to explain simple algorithms (including their own), and detect and correct errors in both algorithms and programs.

Peer-assessment and discussion

Pupils work with a partner to review, and help correct, algorithms and programs, or provide critical, constructive feedback on digital content. Pupils use open questions to focus on what they have learned.

Open questioning

Pupils' knowledge of the concepts covered by the programme of study may not be immediately apparent in the work they produce. The use of open questioning allows teachers to both assess and develop their grasp of concepts.

Summative Assessment

Purple Mash has an in-built assessment tool for each unit of work completed. Teachers complete termly computing assessment sheets specific to the unit taught. The computing subject leader monitors assessments across the school, providing advice and support for teachers as appropriate.

Children's work will be saved on the Purple Mash cloud. Work may be recorded in their curriculum files and many areas will be evidenced through teacher observation during the lesson.

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