Computing Policy

Last Updated: December 2020

Update Required: December 2023

A high-quality computing education 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 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. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

National Curriculum 2014

Aims and objectives
Through the use and teaching of computing the school aims to: • Meet National Curriculum requirements in computing through the development and implementation of the creative curriculum; • Help other curriculum areas achieve National Curriculum requirements through the support of appropriate technology; • Allow staff and children to gain confidence in, and enjoyment from, the development of computing skills. • Allow children to develop specific skills as set down in the school's scheme of work; • Give children the knowledge and confidence to use the Internet • responsibly and safely; • Ensure that staff and children alike understand the capabilities and limitations of new technologies and gain insight into the implications of its development for society; • To educate children about emerging technologies and the dangers posed by the internet

(Staying safe on the internet) in line with the school ESafety and Internet policies.

- Allow staff to develop professionally by enhancing their teaching skills, management skills and administrative skills.

Pupils should be given opportunities to support their work by being taught to:

1. Find out things from a variety of sources, selecting and synthesising the information to meet their needs and developing an ability to question its accuracy, bias and plausibility.
2. Develop their ideas using appropriate tools to amend and refine their
3. work and enhance its quality and accuracy.
4. Exchange and share information, both directly and through electronic
5. Media.
6. Review, modify and evaluate their work, reflecting critically on its quality, as it progresses.
7. Pupils should be given opportunities to explore a range of digital technologies in order to support their work.
8. Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
9. Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
10. Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems

Teaching Method

Where possible, cross curricular links will be applied to enable pupils to use computing for a purpose. We have 16 wireless laptops and 5 classroom computers. This allows for individual, paired and group work. Children should experience a mixture of each approach. Greater emphasis is to be placed upon collaborative work.

There are also many other opportunities for children to develop appropriate skills and access the computing scheme of work through developing a digital literacy, use of digital resources such as ipads and ipods. We also have spaces for small group work utilising mobile resources, especially to promote individual learning Pupils must be given the opportunity to discuss their use of technologies and time provided for critical reflection of own and others work –

     - to develop ideas

- to improve content and quality when communicating information
- to improve future work.

Each classroom is linked to the network with projector and Interactive whiteboard.

Teachers are expected to employ a range of teaching strategies including:

- using the computer to demonstrate to a group of pupils or the whole class.
- leading a group or class discussion about the advantages and limitations of
- modern technologies
- individual or paired work using worksheets and help-cards
- collaborative writing and design work in groups

Activities should be planned to allow for different levels of achievement.
Teachers are expected to intervene where appropriate to reinforce an idea or offer opportunities for extension work.

Scheme of Work

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Early Years Foundation Stage

We teach computing in reception classes as an integral part of the topic work covered during the year. As the reception class is part of the Early Years Foundation Stage of the National Curriculum, we relate the computing aspects of the children's work to the objectives set out in Every Child Matters, which underpin the curriculum planning for children aged four to five.

Time Allocation

Each class is timetabled for two sessions a week to deliver computing and other cross curricular activities which will ensure that every child develops computing capability. This time is required both for the teaching of computing skills, knowledge and understanding and for practising them across other areas of the curriculum.

Differentiation

More able – Computing should be used to develop the curriculum of those children identified as Gifted and Talented, especially through the use of open-ended tasks which challenge higher level thinking.

Special needs – There are a number of programs to stimulate and aid the progress of pupils with Special Educational Needs on the computer network, available at all workstations across the school

Equal Opportunities

All pupils, regardless of race, social background and gender, should have equal access to the computing curriculum. It is particularly important in computing that tasks offered provide a variety of contexts to ensure that both boys and girls take an equal part in activities.

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Progression

Planning for progression needs to consider a number of strands:

- The level of thinking required of the children. It must be noted that progression in computing capability and progression in other subjects do not always go hand in hand. For example higher order thinking skills in other curriculum areas like science or history might be promoted through the use of quite simple software, while the use of complex computing applications may only provide limited opportunities to demonstrate thinking in the curriculum area concerned.
- The pupils being able to take greater responsibility for their own learning.
- Through the setting of open-ended tasks.

Cross Curricular

Computing should be used to support and enrich learning across all areas of the curriculum. Opportunities for cross curricular use of computing should be indicated on weekly lesson plans.

Assessment Recording Reporting

Both formative and summative assessment should be used to track the progress of each child. It is the responsibility of the class teacher to keep a record of the pupil's progress after each unit of work.

Each teacher is responsible for passing assessment records to the next teacher.

Monitoring and review

Monitoring of the standards of the children's work and of the quality of teaching in Computing is the responsibility of the Computing subject leader. The work of the subject leader also involves supporting colleagues in the teaching of Computing, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The progress of children is discussed regularly. Discussion of tracking and progress helps to evaluate the strengths and weaknesses in the subject, and indicates areas for further improvement.

Review

This policy and procedures will be reviewed **every 3 years.**

Signature: ……………………………………

Headteacher

Signature: ………………………………………

Chair of Governors

Date: ……………………………………

Date: ………………………………………