Policy for Computing

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S Kitchen & H Ogden

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1. Introduction

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.'

National Curriculum in Computing DFE 2013

The use of computers and computer systems is an integral part of the National Curriculum. It is important for pupils to make sense of and to contribute positively to our technologically diverse world. In this digital world there is a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. At Dorridge Primary School we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to the learning how computer systems work, the use of IT and the skills necessary to become digitally literate and participate fully in the modern world. The purpose of this policy is to state how the school intends to make this provision.

2. Aims

The school's aims are to:

1. All school staff, governors and parents work in partnership for the benefit of all pupils.
2. Teachers and support staff enable all pupils to achieve their full potential as independent life-long learners.
3. Our broad, balanced and enriched curriculum promotes challenge, enabling all pupils to make a positive contribution towards their own achievement.
4. We foster strong links with the community and encourage children to be responsible citizens, who are respectful and tolerant.
5. We encourage initiative within a happy, healthy and safe environment where all achievement is valued and celebrated.

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

• can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication

• can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

• are responsible, competent, confident and creative users of information and communication technology.

3. Rationale

Dorridge Primary School believes that computer science, IT and digital literacy:

• are essential life skills necessary to fully participate in the modern digital world.
• allows children to become creators of digital content rather than simply consumers of it.
• provides access to a rich and varied source of information and content.

• communicates and presents information in new ways, which helps pupils understand, access and use it more readily.
• can motivate and enthuse pupils.
• offers opportunities for communication and collaboration through group working
• has the flexibility to meet the individual needs and abilities of each pupil.

Dorridge Primary ensures that pupils have a wide-ranging and expanding knowledge of computer science, information technology and digital literacy.

Computer science

Computer science is the core of the computing curriculum. This provides the foundation knowledge required to understand and interpret other areas of the curriculum.

Our pupils should:

Acquire and develop the skills associated with computer science in order to:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
- Use logical reasoning to explain how some algorithims work and detect and correct errrors in algorithims and programs. There is clear progression from Year 1 to Year 6.
- Understand computer networks including the internet; how they can provide multiple services such as the world wide web.

Information technology

Information technology provides a context for the use of computers within society. Within IT there is a focus on knowledge of how computers are used within different sectors and describes the methods to create digital artefacts such as videos, animations or 3D models.

Our pupils should:

Acquire and develop skills associated with Information technology in order to:

- Use search technologies effectively.
- Use email to access homework.
- Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- acquire and refine the techniques eg saving, copying, checking the accuracy of input and output needed to use ICT;
- practise mathematical skills eg ordering numbers including negative numbers, measuring and calculating to an appropriate number of decimal places, drawing and interpreting graphs and bar charts in real contexts;
- learn why numerical and mathematical skills are useful and helpful to understanding;
- develop the skills of collecting first hand data, analysing and evaluating it, making inferences or predictions and testing them, drawing and presenting conclusions, and use all these in their work with ICT.

Digital literacy

Digital literacy is the knowledge and ability to use technology confidently, competently and in a safe way.

Our pupils should:

Aquire and develop their skills in digital literacy in order to:
- Understand the opportunities networks offer for communication and collaboration.
- Be discerning in evaluating and presenting data and information.
- Be able to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

4. Implementation

How computing is delivered at Dorridge Primary School:

· Dedicated time every week to deliver discrete computing lessons
· Through cross-curricular links to foundation subjects and core subjects
· Research-based lessons in foundation subjects
· Creative presentation of information researched in other areas of the curriculum
· Use of digital notebooks, laptops and iPads
· Data presentation (graphs, charts and tables)

5. Planning and Progression

Key Stage 1 and Key Stage 2

The clear, inclusive computing curriculum at Dorridge Primary is the progression model that ensures that all pupils achieve success within the subject and are motivated to do well as a result.

Planning of computing is carried out using the Twinkl Planit Computing schemes of work as well as Code.org® courses as guides. Computing lessons are created to inspire pupils with the range of skills and concepts outlined in this policy as well as creating opportunities for pupils to recall and reuse prior knowledge. Including a range of programming elements for both KS1 and KS2, the units incorporate key knowledge and understanding to ensure preparation for using technology devices safely and responsibly. Each subject area has been split into different units for coverage of the 2014 National Curriculum throughout the school year. Dorridge Primary sets units/topics using the guidance from Twinkl, but staff are not restricted to using only these resources. Planning and resources are adapted for each lesson based on performance of the pupils from the previous lesson.

The curriculum is supplemented by online safety units with the Google scheme 'Be Internet Legends' at Key Stage 2. Annually, E-safety week in the Spring Term incorporates the global Safer Internet Day to remind children of the ways to make good use of the internet while remaining safe- we want our pupils to be brave and curious, yet responsible online learners.

EYFS

Pupils' development of early computing knowledge is important. *"Learners' success in future engagement with computing will depend on how well introductory curricula prepare them in both the cognitive and affective dimensions of computational learning."* S Grover, R Pea and S Cooper, 'Designing for deeper learning in a blended computer science course for middle school students', in 'Computer Science Education'.

It is important in the foundation stage to give children a broad, play-based experience of IT and computing in a range of contexts, including off-computer activities and outdoor play.
Computing is not just about computers. Early years learning environments should feature IT scenarios based on experience in the real world, such as in role play. Pupils gain confidence, control and language skills through opportunities such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys.
Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones can support children in developing communication skills.

6. Monitoring

Computing is monitored by the computing subject leaders as well as the senior management team. Learning walks, informal lesson drop-ins and staff/pupil voices are all utilised as methods of monitoring the teaching and learning in computing. CPD and support from the subject leaders can be organised based on findings from monitoring sessions. All monitoring of computing is in line with the monitoring standards set out in the Curriculum Policy.

7. Role of the Computing Subject Leader

· Raising the profile of computing for all stakeholders in school.
· Monitoring the standards of computing and feeding back to staff in a timely fashion so they can act on areas for development.
· Ensuring assessment systems are in place for computing.
· Maintaining overall consistency in standards of computing across the school.
· Reporting on computing at specific times of the year to the Governing Body/Head/Staff.
· Auditing the needs of the staff in terms of training/CPD.
· Actively supporting staff with their day-to-day practice.
· Seeking out opportunities to inspire staff in developing their practice through modelling and sharing new ideas, approaches and initiatives.
· Attending training and keeping abreast with the latest educational technology initiatives.
· Using nationally recognised standards to benchmark computing.
· Creating Action Plans for computing and supporting a long-term vision which feeds into the whole school development plan.
· Keeping an up-to-date log of all resources available to staff. Procuring physical and online resources that demonstrate best value.
· Reviewing the Computing curriculum and developing it as needed.
· Working as needed with the SENCO/Head Teacher to ensure online safety provision is above adequate and all legislation is in place.

When will the policy be reviewed?

This policy will be reviewed bi-annually.

It will next be reviewed in Spring 2025