

Computing Policy



DANE ROYD SCHOOL

Review frequency:

Approval by: Standards Committee

Policy Date: September 2023

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Lead Personnel: Matthew Lee

Aims which guide our policies and practice

As a school, we seek to promote shared moral and ethical values to unite both local and global interests which enable children to become global citizens. Our agreed school aims are:

- To create a happy and stimulating learning environment, in which each child will develop to their full potential, thereby achieving high educational standards.*
- To develop self-awareness, self-respect and tolerance of others by developing an understanding of the world in which they live.*
- To appreciate human achievements and aspirations; develop aesthetic sensitivity and appreciation; physical ability and co-ordination and a concern for the safety of themselves and others.*
- To prepare children to live and work with others, enabling them to be responsible and caring members of the community.*
- To give children, at the end of their period of primary education, an appetite for acquiring further knowledge, experience and skills, so ensuring they are prepared for the challenges of the next stage in their education.*

We ensure that all of our policies and practices are guided by these aims and we seek to ensure that they are at the forefront of all that we do.

1. Introduction and Rationale

At Dane Royd Junior and Infant School, we want our children to acquire a wide range of computing skills and knowledge required to thrive as safe and responsible participants in a rapidly changing digital world. Our carefully prepared, broad and balanced computing curriculum supports our children in gaining key knowledge and skills in the three main areas of the computing curriculum: computer science, information technology and digital literacy. Throughout their time at Dane Royd, we aim to not only develop our children's computational thinking and creativity, but also leave them with a love for technology and a skillset suitable for the future workplace.

2. Aims

At Dane Royd, we aim to ensure that our pupils can:

- 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 analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

As well as having separate lessons in online safety, the key principles of this are also deeply woven into our computing curriculum to ensure that our children continue to develop the skills and knowledge required to be safe and responsible users of technology.

3. Roles and responsibilities

Due to technology extending beyond the National Curriculum for Computing, there are key roles and responsibilities specific members of staff have.

Headteacher

- Monitoring the implementation of the Computing Policy and its associated policies such as the Safeguarding and SEND Policies.
- Ratifying (in conjunction with the Governing Body) the Computing policy, Safeguarding policy and Computing Leader's Action Plan.
- Securing technical support service contracts and infrastructure maintenance contracts.
- Approving CPD and training which is in line with the whole school's strategic plan.
- Approving budget bids and setting them.
- Creating in conjunction with the Computing Leader, a long-term vision for Computing which includes forecasted expenditure and resources.
- Monitoring the performance of the Computing Leader in respect to their specific job role description for Computing.
- Ensuring any government legislation is being met.

Computing Leader

- Raising the profile of Computing for all stakeholders.
- 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/Headteacher/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.
- Creating bids for the annual budgets and monitoring budget spend.
- 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.
- Overseeing the effectiveness of the technician.
- Working as needed with the SENCO/Headteacher to ensure online safety provision is above adequate and all legislation is in place.

Technician

- Conducts routing scheduled maintenance/updates on systems.
- Supports the administration and set-up of online services including the school website.
- Fixes errors/issues with hardware and software set-up, prioritising as needed.
- Routinely checks school filtering, monitoring and virus protection.

- Sets up new hardware and installations.
- Maintains network connectivity and stability.
- Supports the Computing Leader and Headteacher with future infrastructure needs and associated projected costs.

4. Aspects

Equal Opportunities

The school is committed to promoting equal opportunities for the distribution and access to resources ensuring every child, regardless of race, gender or class, has the opportunity to make progress within the Computing curriculum. The school is aware that not every child has the same access to hardware or software at home and therefore sets no requirements that homework is completed by this means. It also makes no assumptions that children have prior knowledge of the equipment available in school.

Differentiation

At our school we teach Computing to all children, whatever their ability. Computing forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Computing teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning objectives and tasks and by responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected age related expectations. We use a range of strategies to support pupils. A few of these, particularly relevant to Computing are:

- The use of appropriate vocabulary at varying levels of difficulty during lessons
- The use of different apps according to levels of difficulty
- Different levels of questions for pupils

For our gifted and talented pupils, we will expect:

- Teachers to provide teaching and learning experiences that encourage pupils to think creatively, explore and develop ideas, and try different approaches. Pupils should be encouraged to set their own questions, offer ideas, suggest solutions or explanations, and reflect on what they have heard, seen or done in order to clarify their thoughts.
- Greater independence in working, e.g. a pupil to be able to decode, critically and logically think, and problem solve independently.
- Provide opportunities within Computing for pupils to develop their skills in other areas, such as intrapersonal skills (for example, opportunities to use initiative), and interpersonal skills (for example, leadership and group membership). These opportunities also relate to the key skills of working with others and improving own learning and performance.
- Provide cross-curricular opportunities such as links with writing, mathematics and science.

Health and safety

All equipment is checked annually under the '*Electricity at Works Regulation 1989*'. Pupils use laptops and iPads and therefore have no access to the wires; these are stored within the trolleys and cannot be removed without adult supervision. Pupils are aware of the rules associated with using the hardware and the potential dangers. All staff and pupils are also required to complete a User Agreement before using school-owned devices which can be found in our Online Safety Policy.

5. Planning:

As a school, we use Purple Mash to teach Computing and follow a two-year rolling programme in which children's skills and knowledge are embedded and developed. Each unit of work has a predominant area of computing, yet most units include aspects of all strands. Despite online safety being taught in explicit online safety lessons, opportunities are taken within Computing lessons to discuss these topics. This academic year we will be following KS1 B, LKS2 B and UKS2 B.

	Autumn 1 7 WEEKS		Autumn 2 7 WEEKS		Spring 1 6 WEEKS		Spring 2 6 WEEKS		Summer 1 6 WEEKS	Summer 2 7 WEEKS
KS1 A Coding Year	Online Safety and Exploring Purple Mash	Making Music	Technology Outside School	Grouping and Sorting	Coding				Creating Pictures	Questioning
KS1 B Spreadsheet Year	Online Safety and Exploring Purple Mash	Lego Builders	Animated Story Books		Maze Explorers	Effective Searching	Pictograms		Spreadsheets	Presenting Ideas

	Autumn 1 7 WEEKS		Autumn 2 7 WEEKS		Spring 1 6 WEEKS		Spring 2 6 WEEKS		Summer 1 6 WEEKS	Summer 2 7 WEEKS
LKS2 A	Touch Typing	Animation	Branching Databases		Coding		Logo		Email (including email safety)	Writing for Different Audiences
LKS2 B	Touch Typing	Simulations	Effective Search	Hardware Investigators	Coding		Graphing	Making Music	Spreadsheets	

	Autumn 1 7 WEEKS		Autumn 2 7 WEEKS		Spring 1 6 WEEKS		Spring 2 6 WEEKS		Summer 1 6 WEEKS	Summer 2 7 WEEKS
KS2 A	Text Adventures		3D Modelling		Coding See coding breakdown		Blogging		Networks	Quizzing
KS2 B	Game Creator		Databases		Coding		Concept Maps		Spreadsheets (with Microsoft Excel)	

Predominant Area of Computing*			
Computer Science	Information Technology	Digital Literacy**	

*Most units will include aspects of all strands.

**Online safety elements of Digital Literacy to be taught in explicit online safety lessons.

6. Teaching

Foundation Stage

We aim to provide our pupils with a broad, play-based experience of Computing in a range of contexts. We believe the following:

- Early Years learning environments should feature ICT scenarios based on experience in the real world, such as in roleplay.
- Pupils gain confidence, control and language skills through opportunities to 'paint' on the interactive board/devices or control remotely operated toys.
- Recording devices can support children to develop their communication skills. This is especially useful for children who have English as an additional language.

Key Stage 1

In Key Stage 1, pupils will access their computing lessons through the use of laptops and iPads as well as taking part in some 'unplugged' lessons which do not require them to use technology. By the end of Key Stage 1, our pupils will have been 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.

Key Stage 2

In Key Stage 2, pupils will access their computing lessons through the use of laptops and iPads as well as taking part in some 'unplugged' lessons which do not require them to use technology. By the end of Key Stage 2, our pupils will have been taught 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 simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

7. Assessment

Recording of Computing

Pupil's work in Computing will be saved on their Purple Mash account online. Work saved into their personal folders can only be viewed by the teacher, pupil and Computing leader. Occasionally, children may also save their work in different folders which can be accessed by other pupils and staff at Dane Royd to showcase their learning. Teachers are also encouraged to tweet Computing learning to the class Twitter page and using #DaneRoydComputing.

Assessment

Formative assessment is undertaken each session in Computing and pupils are very much encouraged to be involved in that process through the use of self, peer and group assessment of work. Online collaborative tools such as 2Blog and Display Boards are used to support this.

Summative assessment is undertaken in line with the assessment cycle. Using electronic work samples from children's portfolios on Purple Mash, teachers enter judgements about the samples into our Computing Assessment Tool. This information is used to inform future planning.

Marking

Feedback to pupils is provided on their attainment against the Computing objectives. Pupils will receive oral feedback and teachers are also able to leave comments on online work for children to read and respond to.

8. Monitoring and Evaluation:

Computing will be monitored throughout the school by the Computing leader who will access pupils'

saved files to ensure that programme of study is being taught effectively and that this matches the needs and abilities of all pupils. Learning walks and lesson observations by the Computing leader and pupil and staff questionnaires will also be completed to support these judgements.

This policy will be reviewed in September 2024; however, a review will commence before this proposed date if any national changes occur.