Rakegate Primary School

Computing Policy

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2024-2025

(Please also refer to school's iPad/laptop and Online Safety Acceptable Use policy)

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1. Introduction

This policy outlines the teaching, organisation and management of computing at Rakegate Primary School from EYFS to Year 6.
The implementation of this policy is the responsibility of all teaching staff.

2. Our Rakegate Vision for Computing

At Rakegate Primary School, we believe that the teaching and learning of Computing is essential to the development of all pupils in the world we live in today. We equip children to participate in a world of rapidly changing technology.
We believe that pupils should:

- Experience a rich diet of Computing skills, including computer science, coding, multimedia creation and digital literacy skills.
- Develop knowledge and skills that are transferable to other curriculum areas, as well as to other aspects in their lives.
- Foster a love, enjoyment and curiosity for Computing.
- Celebrate and share their work amongst peers.
- Excel, succeed and have high aspirations for themselves.

3. Curriculum Intent, Implementation and Impact

Computing at Rakegate Primary School intends to promote enjoyment, curiosity and develop 'thinkers of the future' through a modern, ambitious and relevant education in computing. We want to equip pupils to use computational thinking and creativity that will enable them to become active participants in the digital world. It is important to us that the children understand how to use the ever-changing technology to express themselves, as tools for learning and as a means to drive their generation forward into the future.

Whilst ensuring they understand the advantages and disadvantages associated with online experiences, we want children to develop as respectful, responsible and confident users of technology, aware of measures that can be taken to keep themselves and others safe online.

Our aim is to provide a computing curriculum that is designed to balance acquiring a broad and deep knowledge alongside opportunities to apply skills in various digital contexts. Beyond teaching computing discreetly, we will give pupils the opportunity to apply and develop what they have learnt across wider learning in the curriculum.

Our scheme of work for Computing is adapted from the 'Teach Computing' Curriculum and covers all aspects of the National Curriculum. This scheme was chosen as it has been created by subject experts and based on the latest

pedagogical research. It provides an innovative progression framework where computing content (concepts, knowledge, skills and objectives) have been organised into interconnected networks called learning graphs.

The curriculum aims to equip young people with the knowledge, skills and understanding they need to thrive in the digital world of today and the future. The curriculum can be broken down into 3 strands: computer science, information technology and digital literacy, with the aims of the curriculum reflecting this distinction.

The national curriculum for computing aims to ensure all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation (Computer science)
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems (Computer science)
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems (Information technology)
- Are responsible, competent, confident and creative users of information and communication technology. (Digital literacy)

A key part of implementing our computing curriculum was to ensure that safety of our pupils is paramount. We take online safety very seriously and we aim to give children the necessary skills to keep themselves safe online. Children have a right to enjoy childhood online, to access safe online spaces and to benefit from all the opportunities that a connected world can bring them, appropriate to their age and stage.

Children build online resilience through the use of the 'Project Evolve – Education for a Connected World' framework. The framework aims to support and broaden the provision of online safety education, so that it is empowering, builds resilience and effects positive culture change. The objectives promote the development of safe and appropriate long-term behaviours, and support educators in shaping the culture within their setting and beyond. The activities empower learners to think critically, behave safely, and participate responsibly in our digital world - 21st-century skills which are essential for children and young people to harness the full potential of technology for learning.

The impact of the curriculum design above will lead to pupils developing a deep knowledge, understanding and appreciation of how technology works. It will enable all children to excel and succeed and have high aspirations for themselves.

4. Computer Science

Our children 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 algorithms work and 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.

5. Information Technology

Our children should acquire and develop skills associated with Information technology in order to:

- Use search technologies effectively.
- 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 e.g. saving, copying and checking the accuracy of input and output needed to use ICT.
- Use word processing to publish pieces of writing.
- Practise mathematical skills e.g. 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.
- 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.

6.Digital Literacy

Our children should acquire 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. (See Online Safety Policy)

Rakegate Primary School uses the 'Project Evolve – Education for a Connected World' framework to teach Online Safety half-termly within PSHE lessons. Within each year group topics include:

- Self-Image and Identity - This strand explores the differences between online and offline identity beginning with self-awareness, shaping online identities and media influence in propagating stereotypes. It identifies effective routes for reporting and support and explores the impact of online technologies on self-image and behaviour.
- Online Relationships - This strand explores how technology shapes communication styles and identifies strategies for positive relationships in online communities. It offers opportunities to discuss relationships, respecting, giving and denying consent and behaviours that may lead to harm and how positive online interaction can empower and amplify voice.
- Online Reputation - This strand explores the concept of reputation and how others may use online information to make judgements. It offers opportunities to develop strategies to manage personal digital content effectively and capitalise on technology's capacity to create effective positive profiles.
- Online Bullying - This strand explores bullying and other online aggression and how technology impacts those issues. It offers strategies for effective reporting and intervention and considers how bullying and other aggressive behaviour relates to legislation.
- Managing Online information - This strand explores how online information is found, viewed and interpreted. It offers strategies for effective searching, critical evaluation of data, the recognition of risks and the management of online threats and challenges. It explores how online threats can pose risks to our physical safety as well as online safety. It also covers learning relevant to ethical publishing.
- Health Well-being and Lifestyle - This strand explores the impact that technology has on health, well-being and lifestyle e.g. mood, sleep, body health and relationships. It also includes understanding negative behaviours and issues amplified and sustained by online technologies and the strategies for dealing with them.
- Privacy and Security - This strand explores how personal online information can be used, stored, processed and shared. It offers both behavioural and technical strategies to limit impact on privacy and protect data and systems against compromise.
- Copyright and Ownership - This strand explores the concept of ownership of online content. It explores strategies for protecting personal content and

crediting the rights of others as well as addressing potential consequences of illegal access, download and distribution.

7. Artificial Intelligence (AI)

Due to the concerns of privacy when using AI, the Data Protection Policy is a linked policy that sets out the rules on data protection and the legal conditions that must be satisfied when we obtain, handle, process, transfer and store Personal Data which would apply if AI-powered systems and tools are to involve the processing of personal data.

8. Language and Communication

Our children should:

- Develop language skills e.g. in systematic writing and in presenting their own ideas.
- Use the appropriate technical vocabulary.
- Read non-fiction and extract information from sources such as reference books or the internet.

9. Values and Attitudes

Our children should:

- Work with others, listening to their ideas and expertise; treating these with respect e.g. cooperating and collaborating when using a laptop or iPad as part of a group to ensure that all contribute.
- Acknowledge the ownership of ideas and recognise the value of information held on IT systems e.g. recognising how much work has gone into producing a computer file and how easily a careless access can destroy it.
- Be aware of the security of their own and other people's information in electronic form e.g. recognise that they should ask before reading or copying from other's work.
- Recognise the importance of printed output e.g. keeping examples of work safe so that source files may be easily identified when work is developed at a later date.
- Be creative and persistent when assembling a computer file from a large amount of source material.
- Consider the origin and quality of information and its fitness for purpose.
- Evaluate critically their own and others' use of ICT.
- Recognise the strengths and limitations of ICT and its users e.g. recognising that a word processor is an effective and efficient tool to help writing but on occasion, handwritten text is more appropriate.
- Develop knowledge and understanding of important ideas, processes and skills and relate these to everyday experiences.
- Learn about ways of thinking, finding out about and communicating ideas.

- Explore values and attitudes through IT.

10. Features of Progression

To ensure children make progress in computing, teaching should promote opportunities for children as they move through the Key Stage to progress:

- From using single forms of information to combining different types of information, matching the form of presentation to the audience and what is being communicated.
- From personal use of ICT to using ICT to meet the needs of others and communicating with others.
- From using ICT to replicate and enrich what could be done without ICT e.g. playing a word game or drawing a picture to using ICT for purposes that could not have been envisaged without it such as exploring 'what if' situations and modelling new ones.
- From using everyday language to describe work with ICT to increasingly precise use of technical vocabulary and ways of recording.
- From personal use of ICT in a few areas to understanding a wider range of uses of ICT and the consequences of its use for themselves, their work and others.
- From using ICT to address a single task e.g. writing a story to addressing more complex issues and balancing conflicting needs and criteria.
- From organising information as separate items e.g. single graphic image to organising information in sequences and more complicated, interactive, structures e.g. a multimedia presentation or a database.
- From initial exploration of ideas and patterns to more systematic use of ICT for analysis and design.

11. Building on Children's Earlier Experiences

Most of our children will have used a computer, laptop or iPad either at home or in their nursery and infant classes. The differing backgrounds children have in computing capability offer a significant challenge to us at Rakegate Primary. Children who have access to IT outside school often have greater skills in handling hardware and software. However, they may not have the full range of IT capability expected in the programme of study. By observing children's developing IT capability, we will be able to ascertain what tasks and expectations would best support their learning.

12. Present Resource Provision

The school currently has five laptop trolleys and eight laptop cabinets with a total of 254 student and staff laptops. These are for use inside and outside the classroom to promote the teaching of computing through other areas of the

curriculum. As well as this, we also have an iPad trolley per year group (per classroom in Year 6) available to use throughout the day. These iPads have a range of apps to support the computing curriculum and other subject areas. Laptops and iPads can be booked out to classes or individuals through the booking system on Rakegate Primary's Learning Platform.

The NCCE Teach Computing curriculum is used to support all staff in the delivery of the curriculum. We have also purchased an Engagedu Support package to support staff with in-class curriculum projects and CPD support. As a school we have subscriptions to Ed Shed, Times Table Rockstars, Grammarsaurus, Kapow, Boom Reader and See Saw.

In Computing, as with all subjects, in order to develop the continuity and progression of teaching and learning, a balance between whole class, individual and group work, direct teaching, pupil investigation and skills practice should be planned throughout the school.

Staff confidence and expertise will be developed if requested through training sessions provided by the Computing Co-ordinator/s, and external agencies. Support will be given, where possible, with Computing planning and teaching by the Computing co-ordinator & support via Engagedu and NCCE hub.

13. Entitlement to the Computing Curriculum

All children should have access to the use of computing technologies regardless of gender, race, cultural background or physical or sensory disability. Where use of a school laptop proves difficult for a child because of a disability, the school will endeavour to provide specialist equipment and software to enable access. Children with learning difficulties can also be given greater access to the whole curriculum through the use of these technologies. Their motivation can be heightened, and they are able to improve the accuracy and presentation of their work. This in turn can raise self-esteem.

Planning for Computing in the early years has been carefully considered so that children are to begin to gain confidence in the use of a variety of technologies as soon as they start attending Nursery. A range of appropriate hardware, software and activities are offered in the foundation stage despite the 'Technology' strand being removed from the new Early Years Foundation Stage curriculum (2021). Computing and technology are vitally important subjects to deliver to foundation stage children. Not only will teaching a well-planned

Computing curriculum ensure that children enter Year 1 with a strong foundation of knowledge, but Computing lessons in the EYFS also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning.

We live in a technological world and there is no escape from the reality that technology is integrated into the lives of young children. Just as we ensure the children in our care are ready for the adult world by teaching them maths and literacy, we should also make sure that they are fluent in computer literacy and all-important online safety.

Input from NCCE Teach Computing Curriculum will support staff from Years 1 through to Year 6. Quite often there are huge differences in ability between children who have access to home computers and other technologies, and those who do not. Task matching may include provision of different software, varying the amount/type of support given, varying the tasks, varying the groupings etc.

14. Health and Safety

Children should not be responsible for moving heavy equipment around the school. They may load software but should not be given the responsibility of plugging in and switching machines on without a member of staff present.
Food and drink **should not** be consumed near computing equipment.

- It is the responsibility of staff to ensure that classroom computing equipment is stored securely, cleaned regularly and that their class or themselves leave the trolleys in a tidy and safe manner ready for re-use. Staff should be responsible for charging the equipment after use.
- Staff should ensure that the children are seated at laptops comfortably and be aware of the dangers of continuous use (e.g. eye/wrist strain etc.).
- An adult should always supervise children when they are accessing information via the Internet. The service provider does filter information, but staff are advised to take great care on the content accessed by children and ultimately responsible for information accessed by pupils.
- An IT technician is employed two days per week to ensure the safe running of all computing equipment within the school.

15. Assessment and Record Keeping

On-going formative assessment is an integral part of good practice. Its main purpose is to enable the teacher to match work to the abilities and needs of the children and ensure progression in learning.
Computing skills capability should be monitored regularly in relation to the Computing curriculum as outlined in the 'The National Curriculum' for England. Teachers should assess children's knowledge, understanding and skills through the use of teacher Assessment grids. Other opportunities for assessment will arise from cross-curricular work and will be recorded via the See-Saw app.

Samples of work should be kept for groups of children stored on See-Saw within the relevant class folders.

For Nursery and Reception, it may not always be practical to keep samples of work, but observations and discussions can be recorded using floor books, pupil learning journeys and the Seesaw App.

16. Links to the School Development Plan

- The Computing Co-ordinator/s produces an action plan termly.
- An audit of resources is undertaken yearly to ensure that hardware and software are kept as up to date as possible and that obsolete or broken machines are scrapped or repaired.

17. Staff Training

Needs will be met by:

- Auditing staff skills and confidence in the use of information technologies regularly.
- Arranging training for individuals as required.
- The Computing Co-ordinator/s should attend courses/ network meetings and support and train staff as far as possible.
- Annual Online safety training must be arranged and completed by all staff working with children
- All staff must be trained on professional conduct and safer working practices regarding technologies such as Twitter, Facebook, Blogging etc.

18. Review and Evaluation Procedures

The everyday use of communication technology is developing rapidly, with new technology being produced all the time. This policy therefore will be reviewed and revised on a yearly basis. The Computing Co-ordinator will liaise regularly with staff, both at staff meetings and informally, to monitor the effectiveness of the policy and the Computing curriculum. Meetings with subject co-ordinators will also ensure that the use of information technologies across the curriculum is planned for and evaluated.

Updated July 2024

Subject Leader for Computing:
M Parvez

Signed: _____ Headteacher

Signed: _____ Chair or Governors

Date: _____