



Roman Road Primary School
Computing Policy
2024-2027

<i>Date reviewed:</i>	<i>June 2024</i>
<i>Adopted by the Governing Body:</i>	<i>June 2024</i>
<i>Next full review</i>	<i>June 2027</i>

Introduction

The purpose of the Computing Policy is to:

1. Provide a point of reference for all teaching staff, students, governors and interested agencies.
2. Assist teachers and students in planning, delivering and assessing the Computing Curriculum.

It should be noted that Computing policy should be used in relation to other policies including the Online Safety Policy, Acceptable Use Policy, Children's Acceptable Use Policy, Social Media Policy and the Remote Learning Policy.

Rationale

Computing plays a significant role in a dynamic wide ranging Curriculum as well as being an integral key skill in everyday life. The National Curriculum document for the subject dated 2013 states:

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

Laptops, tablets, programmable robots, Crumble controllers and data sensors are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Roman Road, we recognise that pupils are entitled to a broad and balanced computing education. This policy will show how we will achieve this.

Aims Of Computing in School

- To provide a broad, balanced, challenging and enjoyable curriculum for all pupils;
- Develop pupil's computational thinking skills that will benefit them throughout their lives;
- Meet the requirements of the National Curriculum programmes of study for computing at Key Stage 1 and 2;
- To respond to new ideas and development in a technological world;
- To equip pupils with the confidence and skills to use digital tools and technologies throughout their lives.
- To enhance and enrich learning in other areas of the curriculum using IT and computing.
- To develop the understanding of how to use computers as well as other digital equipment safely, fairly and responsibly;
- To be aware of the dangers posed by an ever expanding online world.

Above all, Computing should be a tool which enables enquiry and development across a fully enriched curriculum.

The national curriculum for computing aims to ensure that all pupils:

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

Objectives

By the end of Early Years Foundation Stage:

- complete a simple program on electronic devices;
- uses ICT hardware to interact with age-appropriate computer software;
- can create content such as a video recording, stories, and/or draw a picture on screen;
- develops digital literacy skills by being able to access, understand and interact with a range of technologies;
- can use the internet with adult supervision to find and retrieve information of interest to them.

By the end of Key Stage 1, pupils should 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.

By the end Key Stage 2, pupils should 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.

Every Child Matters

The Every Child Matters initiative requires children to have developed Computing skills that they will be able to use in the future as part of economic understanding and other areas. With this in mind, all staff must make sure the children's opportunities to develop their Computing skills are maximised.

National Curriculum:

The three areas are:

Computer Science:

Key elements include:

- Understand, write and debug algorithms;
- Develop logical reasoning;
- Write programs using sequence, selection, repetition and variables;
- Understand networks;
- Know how to carry out searches on the internet.

Information Technology:

Key elements include:

- Understand that technology is everywhere and have a basic understanding of how it works;
- Word processing;

- Creating images;
- Taking and using photographs and video;
- Creating music and animations;
- Perform searches in databases as well as creating them;
- Contributing to blogs;
- Save and retrieve from files and folders.

Digital Literacy:

Key elements include:

- ❖Use technology responsibly & safely ensuring people are treated with respect;
- ❖Keep their personal information private including passwords;
- ❖Know what to do and where to go for help if something goes wrong or they see something upsetting;
- ❖They need to understand the main risks relating to:
 - being exposed to illegal, inappropriate or harmful material;
 - being subjected to harmful online interaction with other users;
 - online behaviour that increases the likelihood of, or causes, harm;
- ❖They need to be aware of respecting copyright and the rights.

Teaching Styles and Approaches

The programme of study for each Key Stage should be taught to each pupil in ways appropriate to their ability and the topic being studied. This will utilise whole class, small group or individual teaching methods.

Two key points need to be planned for:

- i. Teachers need to follow the Computing Award Scheme which gives a progression of skills and substantive / disciplinary knowledge in the subject over the three key areas above. Links, wherever possible, should be made with other subjects.
- ii. The school has invested in the Purple Mash Software portal which enables staff to access various applications. Detailed lesson plans accompany are included as well as separate logins for the pupils so their use can be monitored and assessed.
- iii. A scheme based on predominately on Purple Mash is to be used. As well as this, Project Evolve is used for Online Safety elements.
- iv. In addition, to Purple Mash, other software and hardware should be incorporated where the opportunity arises such using a green screen.

The responsibilities of the teacher include:

1. An understanding of the skills required to enable pupils to use computer hardware;
2. Enable the children to progress in the subject using the correct software in an appropriate way;
3. To look for opportunities to use Computing in all curriculum subjects and areas;

Above all, staff must ensure the children use all equipment safely protecting children from physical injury and also the potential of harm from online dangers. Staff must make the teaching of online safety a priority so the children are equipped for the digital world now and in the future. Further details can be found in the Online Safety, Acceptable Use and Children's Acceptable Use policies.

Resources

Hardware (excluding staff equipment):

A wide range of hardware is available. In the main these are:

Sixty pupil laptops;
Thirty I-pads;
Four programmable NXT robots;
Fifteen Crumble sets;
A class Micro:Bit set;
A green screen and stand;
Six Bee-bots.
Two data loggers of one type and four of another.

Software

Purple Mash Portal
Various pieces of software on Ipads and laptops which cover all elements of the scheme;
Various online software such as Google Earth, Scratch, Crumble & Micro:Bit.

Cross Curricular Links.

Opportunities are available to maximise cross-curricular links. This develops the skills and concepts taught in Computing as well as supporting aspects of other curricular subjects.

Staff must ensure that cross curricular work is not just limited to internet search. Creative ways of using internet and server based software should be used for example using Google Earth visually explore different places of the world and using Comic Life 3 for tasks related to English

Continuity and Progression

Careful planning and monitoring will ensure that for each pupil, progression of knowledge, skills and concepts will be achieved according to their needs and abilities.

Pupil progress through the Computing Award scheme which will be monitored by the Computing Leader.

Additionally, it is important for staff to establish what the children know before they start a topic and then establish what they know at the end to ensure progression has been made.

Responses to Pupil's Work

Staff will provide a stimulating learning environment and respond positively to and value the pupil's work. This will develop their self-esteem, respect for others and encourage independent learning encompassing assessment for learning strategies.

Assessment

The assessment of computing capability will take account of:

The development of computer skills.

The knowledge gained which is defined in the programmes of study.

The use of computing within other curriculum areas.

These will be indicated by teachers when they fill in the individual computing award scheme booklets.

As well as assessments carried out by staff after work has been completed, each child needs to be involved in Assessment for Learning Strategies which will include:

1. Use of learning intention and success criteria;
2. Self and peer assessment;
3. Developing and answering questions.

Monitoring

The Computing Leader should use the following opportunities for monitoring learning:

- a) Computing award scheme booklets;
- b) Purple Mash portal;
- c) Pupil voice;
- d) Looking at examples of finished work saved on the server;
- e) Classroom displays;
- f) Discussions with staff about teacher assessments;
- g) Observations when appropriate.

Equal Opportunities

a). Special Educational Needs

Pupils with special educational needs are not only entitled to develop Computing capability, but can also benefit in other ways:

1. By supporting writing and acting as a catalyst for the development of literacy and numeracy skills.
2. Provide better access to the National Curriculum for sensory or physically impaired pupils.
3. Successfully hold the attention of pupil's with emotional and behavioural difficulties and heighten motivation.
4. Aid the development of creativity.

Staff will work closely with the Leader in order to provide specific help for pupils with special needs.

b). Inclusion and Cultural Recognition

We will ensure that all pupils, regardless of gender, culture and ability have equal access to Computing equipment and software. We will ensure that the software is not racist or sexist in accordance with the school's Equal Opportunities Policy. Mixed groups will be encouraged for work at a task and constructive intervention will be employed when domination by particular parties is observed.

Use of the Environment

The local environment and organised visits provide ideal opportunities to enhance the relevance and value of the Computing Curriculum. I-pads and data loggers are especially relevant for this purpose.

The Policy will be reviewed by the Leader every three years

AA – June 2024

Next Review - 2027