



Computing Curriculum POLICY

January 2019

Date approved by the 'D and P' Committee
Signed by Chair of Governors
Signed by Head Teacher
Date of next review January 2020

ANNUALLY

The development of computing and technology is rapidly changing at home and in the community. Its impact on the lives of individuals continues to grow and it is essential that our pupils can take advantage of

its opportunities and understand its effects. Therefore, it is important that pupils in our school gain the appropriate skills, knowledge and understanding to have the confidence and capability to use computing technology throughout their lives.

The National Curriculum requires computing and technology to be used in all subjects where appropriate. 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

Vision:

Through teaching Computing at Priory we aim to:

- meet the requirements of the National Curriculum.
- equip pupils to use computational thinking and creativity to understand and change the world.
- ensure pupils understand that Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.
- teach that 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 coding.
- build on this knowledge and understanding to equip pupils to use information technology to create programs, systems and a range of content that make computers do what we want them to do beyond the use of standard applications.
- ensure 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.

Aims:

The Computing Curriculum aims to ensure all children:

- 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 safe, responsible, competent, confident and creative users of information and communication technology (see Online Safety Policy).

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Curriculum coverage and progression (KS2)

- The Curriculum can be separated into three main sections: Computer Science, Digital Literacy and Information Technology. KS2 Pupils should be taught to:

Computer Science:

Curriculum Objective: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

Curriculum Objective: use sequence, selection, and repetition in programs; work with variables and various forms of input and output

Curriculum Objective: use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Curriculum Objective: understand computer networks including the internet; how they can provide multiple services, such as the world wide web

Curriculum Objective: appreciate how results are selected and ranked

Digital Literacy:

Curriculum Objective: understand the opportunities [networks] offer for communication and collaboration

Curriculum Objective: be discerning in evaluating digital content

Curriculum Objective: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Information Technology:

Curriculum Objective: use search technologies effectively

Curriculum Objective: 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;

- Long term planning demonstrates coverage and progression of the key objectives for ICT. These have been identified by the National Curriculum and we use government endorsed schemes such as CAS (Computing at School) and Barefoot to develop our lesson planning.
- Opportunities for embedded Computing as a tool to support learning and teaching through cross-curricular links are encouraged as many of the Digital Literacy and Information Technology objectives can be covered this way.
- Computer Science is taught explicitly through weekly sessions.
- the pupil's skills progress and develop throughout their years at Priory and they undertake more complex and challenging tasks.
- Open-ended tasks are set to allow pupils to challenge and extend their own knowledge of a program.

Cross-curricular Links

The contribution of Computing to teaching in other curriculum areas:

Computing contributes to teaching and learning in all curriculum areas. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while the Internet proves

very useful for research in topic. Computing enables children to present their information and conclusions in the most appropriate way.

English

Computing skills are a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They have the opportunity to develop their writing skills by communicating with others. They learn how to improve the presentation of their work. Computing is important to give children the opportunities to publish their written work through video making, giving purpose to their writing and a brilliant way to share with the school, family and community.

Mathematics

Many Computing activities build upon the mathematical skills of the children. Children use computers in mathematics to collect data, make predictions, analyse results, and present information graphically. Through creating programs, they must use problem-solving skills to program and debug the software.

SMSC

Computing makes a contribution to the teaching of SMSC as children learn to work together in a collaborative manner. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse of computers, and they also gain a knowledge and understanding of the interdependence of people around the world. This is hugely important in teaching the pupils how to use the internet safely and discuss the issues around cyberbullying (see Online Safety Policy).

Assessment

- Progress is assessed using the key objectives for Computing and through teacher assessment and observation of the pupil's skills.
- Evidence of pupil's work is printed out into topic books, shared through Seesaw (learning journal) or social media and saved on the Common drive.
- Children are encouraged to evaluate their own and others' work in a positive and supportive environment.

Monitoring

- Regular monitoring of Computing helps inform the Curriculum lead and school development plan/school evaluation form. This takes the form of discussions with children, staff and aspects of teaching and planning.

Inclusion

- Children's individual needs will be addressed through provision of resources, learning styles and questioning.
- Laptops will be applied for when children have particular special needs.

- Positive use of technology will be promoted by all.

Resources

- Resources are purchased and deployed effectively to meet the requirements of the National Curriculum.
- An inventory of Computing equipment is maintained.
- Additional resources to supplement the cross-curricular use of Computing have been purchased: i-pads, digital cameras

Roles and responsibilities

- All members of staff will work together to ensure the implementation of the Computing policy.
- The subject coordinator and SLT are responsible for monitoring curriculum coverage and the impact of learning and teaching.
- Children have the opportunity to apply for the role of IT technicians and work with the Computing coordinator.

Health and safety

- Equipment is maintained to the meet agreed safety standards.
- With the increasing use of online communication a separate Online Safety Policy is in place.

Review

- The Computing coordinator and leadership team will review the policy annually.