

Streatham Wells Primary School

Computing Policy

Aims and Objectives

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. 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 – at a level suitable for the future workplace and as active participants in a digital world. (National Curriculum 2013)

- During the Early Years Foundation Stage (EYFS) the pupils explore computing as part of 'Understanding the World' early years curriculum.
- During KS1 the pupils continue to explore computing and learn how to use it confidently and with a purpose to achieve specific outcomes. They start to use computing to develop their ideas and record their creative work. They become familiar with hardware and software.
- During KS2 the pupils use a wider range of computing tools and information sources to support their work across the curriculum. They develop their research skills and decide what information is appropriate for their work. They begin to question the plausibility and quality of information. They learn how to amend their work and present it in a way that suits the audience.

Curriculum

Early Years Foundation Stage

Understanding the World: Technology

Understanding the world involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment (EYFS Framework, 2017)

During the EYFS, pupils should be taught the knowledge, skills and understanding through practical exploration of everyday technology, laptops and programmable toys.

The Early Learning Goal that we aim for children to achieve by the end of Reception is:

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

The subject content outlined by the National Curriculum:

Key stage 1

Pupils should be 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

Pupils should be 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.

Organisation

In order to ensure coverage of the curriculum and progression, we structure our Computing programme of study around the CLC (London Connected Learning Centre) progression milestones.

Our Computing programme of study is divided into three main themes:

- Computer Science
- Digital Literacy
- IT

These strands should be combined so that breadth and balance is achieved. Computing will be taught in half term blocks. Computing will be taught in a way which emphasises cross curricular links, although there will still be the need for subject teaching.

In KS2, we utilise the scheme of work 'Switched on Computing' to assist teachers. This scheme of work offers engaging units which can be adjusted to fit within our school's curriculum.

Key Stage 1

Computer Science

Computational Thinking

The children should:

Understand what algorithms are

Understand how algorithms 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

Internet, networks and the web

The children should:

Use technology purposefully to store digital content

Use technology purposefully to retrieve digital content

Digital Literacy

E-safety

The children should:

Use technology safely

Know where to go for help and support when they have concerns about content or contact on the internet or other online technologies

Use technology respectfully

Keep personal information private

Using Information

The children should:

Use technology respectfully (e.g. to understand that digital content is owned and you may need to get permission before using content)

IT

Multimedia and Communication

The children should:

Use technology purposefully to create digital content

IT in the world

The children should:

Recognise common uses of information technology beyond school

Basic skills

The children should:

Use technology purposefully to store digital content

Use technology purposefully to retrieve digital content

Key Stage 2

Computer Science

Computational Thinking

The children should:

Use logical reasoning to explain how some simple algorithms work

Design and write programs that accomplish specific goals,

Use sequence in programs

Work with variables and various forms of input and output

Solve problems by decomposing them into smaller parts. Detect and correct errors in algorithms and debug programs

Control or simulate physical systems

Internet, networks and the web

The children should:

Understand computer networks including the internet;

Understand how computer networks including the internet can provide multiple services, such as the world-wide web;

Understand how computer networks including the internet can provide multiple services, such as the world-wide web and the opportunities they offer for communication and collaboration

Appreciate how results are selected and ranked

Digital Literacy

E-safety

The children should:

Use technology safely

Identify a range of ways to report concerns about content and contact

Use technology safely respectfully and responsibly

Recognise acceptable/unacceptable use

Identify a range of ways to report concerns about contact

Using Information**The children should:**

Be discerning in evaluating digital content

Use search technologies effectively

Appreciate how results are selected.

IT**Multimedia and Communication****The children should:**

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

Collect, analyse, evaluating and presenting data and information.

IT in the world**The children should:**

Understand some of the different ways that digital technology is used at home, school and the world of work

Consider the consequences of the spread of digital technology on society and people's lives

Consider possible future developments of digital technologies, and their potential impact on society

Basic skills**The children should be able:**

To type on a keyboard with increasing fluency for a sustained period of time

To know and use a wider range shortcuts such as ctrl+s/a and so on

To use a series of apps to create a workflow within a project

To save work created on a mobile device to a cloud based storage system.

To create and manage an organised folder structure when saving project work

To clearly explain the path to find and retrieve saved work

To begin to be familiar with some relevant settings on a computer

To manage some settings independently

To know how to fix some simple technical problems independently

Resources and access

The school acknowledges the need to continually maintain, update and develop its resources so that we can effectively deliver the strands of the national curriculum and support the use of ICT and computing across the school. Teachers are required to inform the computing coordinator or the ICT technician of any faults as soon as they are noticed. Resources if not classroom based are located in the Year 5 classroom or resources room and a timetable ensures all classes have allocated time to use both the laptops and iPads.

- Every classroom from Nursery to Year 6 has a computer connected to the school network and an interactive whiteboard with sound, DVD and video facilities.
- There is a set of 6 Beebots (programmable toys) and a selection of other programmable toys that are stored in Reception.
- There are two laptop trolleys with 15 laptops (30 in total).
- Reception and Nursery have a listening station, 2 laptops for children and 6 tablets.
- Every teacher has an iPad for use in the class and there is a set of 15 student iPads.
- The school has an ICT and computing technician employed for 2 hours a day to maintain and update ICT across the school.
- A governor is allocated to take a particular interest in ICT, Computing and online safety across the school.

Record keeping and assessment

Progress in computing in EYFS is tracked through observations of learning stored on the Interactive Learning Diary.

In KS1 and KS2 attainment and progress is tracked identifying children who have exceeded or struggled to meet the learning objectives for the half term, noted in the medium term plans.

We also track progression by collating evidence. In KS1 this is through photos and work samples for a range of children. Teachers evidence the work of children from different abilities In KS2, each child has their own digital portfolio. This evidence may be stored on either the shared drive in their own folders or on the Google Drive within their account.

Parents are informed of their child's achievement in the end of year academic reports.

Equal Opportunities

We believe that all children, irrespective of background, race, gender and capability should have equal access to the curriculum as stated in each curriculum policy.

Our school practice should provide opportunities that reflect the cultural diversity of our school, community and locality.

Inclusion

At Streatham Wells we recognise the need to cater for children with special educational needs. Work is differentiated to assist children's learning in terms of:

- learning outcomes
- tasks
- teaching methods
- resources

Tasks may be broken down into small steps, giving children achievable goals. Activities should reinforce children's understanding of the subject. The more able children should be given open-ended tasks and opportunities for further research and more challenging study.

Wherever possible, pupils should use computer programs that are accessible and suitable for their own abilities and age.

Health and Safety

Health and safety regulations in class-based lessons apply as for any other subject.

This statement applies to Science, DT, Computing, Art and Physical Education.

When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

1. About hazards, risks and risk control.
2. To recognise hazards, assess consequent risks and take steps to control the risks to themselves and others.
3. To use information to assess the immediate and cumulative risks.
4. To manage their environment to ensure the health and safety of themselves and others.
5. To explain the steps they take to control risks.

Staff Training

As a school, we are committed to helping all of our staff become computer literate and be aware of how specific programmes can enhance their teaching.

Summer 2019

Review- Summer 2021