

Computing

Intention

Technology is changing the lives of everyone. Through teaching Computing we equip children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed by technology.

It is our intention to enable children to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way.

Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to achieve this.

We recognise the fact that the effectiveness of any resource is dependent upon how and why it is being used. We are aware that clear objectives, direct teaching and good class management are the key elements of an effective Computing lesson. However, we believe that the appropriate use of good quality resources will enhance good teaching. Whilst we are aware of the limitations of any resource, the resources used at Stamford Bridge Primary School have been developed to enable children and teachers to participate fully in all Computing teaching.

Key Stage 1

Attainment targets (National Curriculum)

- 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.

Skills

With the attainment targets in mind, the following skills have been devised to ensure that the Computing curriculum is progressive and skills based.

Key Stage 1

Y1 and Y2 – to code

Motion

Control motion by specifying the number of steps to travel, direction and turn

Looks

Add text strings, show and hide objects and change the features of an object.

Sound

Select sounds and control when they are heard, their duration and volume

Draw

Control when drawings appear and set the pen colour, size and shape.

Events

Specify user inputs (such as clicks) to control events

Control

Specify the nature of events (such as a single event or a loop).

Sensing

Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).

Y1 and Y2 – to connect

Participate in class social media accounts

Understand online risks and the age rules for sites

Y1 and Y2 – to communicate

Use a range of applications and devices to in order to communicate ideas, work and messages.

Y1 and Y2 – to collect

Use simple databases to record information in areas across the curriculum

Key Stage 2

Attainment targets (National Curriculum)

Pupils should be taught to:

- design, write and de
- bug 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.

Lower Key Stage 2

Y3 and Y4 – to code

Motion

Use specified screen coordinates to control movement.

Looks

Set the appearance of objects and create sequences of changes.

Sound

Create and edit sounds. Control when they are heard, their volume, duration and rests.

Draw

Control the shade of pens.

Events

Specify conditions to trigger events

Control

Use IF THEN conditions to control events or subjects

Sensing

Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).

Variables

Use variables to store a value.

Use the functions define, set, change, show and hide to control the variables.

Operations

Use the Reporter operators $()+()$; $()-()$; $()*()$; $()/()$ to perform calculations

Y3 and Y4 – to connect

Contribute to blogs that are moderated by teachers.

Give examples of the risks posed by online communications.

Understand the term 'copyright'.

Understand that comments made online that are hurtful or offensive are the same as bullying.

Understand how online services work.

Y3 and Y4 – to communicate

Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.

Y3 and Y4 – to collect

Devise and construct databases using applications designed for this purpose in areas across the curriculum.

Upper Key Stage 2

Y5 and Y6 – to code

Motion

Set IF conditions for movements. Specify types of rotation giving the number of degrees.

Looks

Change the position of objects between screen layers (send to back, bring to front).

Sound

Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.

Draw

Combine the use of pens with movement to create interesting effects

Events

Set events to control other events by 'broadcasting' information as a trigger.

Control

Use IF THEN ELSE conditions to control events and objects

Sensing

Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.

Variables

Use lists to create a set of variables.

Operations

Use the Boolean operators `()<()`; `()=()`; `()>()`; `()and()`; `()or()`; `Not()` to define conditions

Use the Reporter operators `()+()`; `()-()`; `()*()`; `()/()` to perform calculations

Pick Random `()` to `()`

Join `()` `()`

Letter `()` of `()`

Length of `()`

`() Mod ()` This reports the remainder after a division calculation

Round `()` `()` of `()`.

Y5 and Y6 – to connect

Collaborate with others online on sites approved and moderated by teachers.

Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems

Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder

Understand the effect of online comments and show responsibility and sensitivity when online.

Understand how simple networks are set up and used.

Y5 and Y6 – to communicate

Choose the most suitable applications and devices for the purposes of communication.

Use many of the advanced features in order to create high quality, professional or efficient communications

Y5 and Y6 – to collect

Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner