

What Computing looks like at Gilmorton Chandler



INTENT:

Our computing curriculum supports the aims and objectives of [National Curriculum 2014](#) as well as those set out in the [EYFS Statutory Framework 2017](#).

Our intent encompasses:

- Developing inquiring minds and curiosity about the development, application and use of technology
- Satisfying this curiosity with knowledge
- Engaging pupils as learners at many levels through linking ideas with practical experience
- Helping pupils to develop an understanding of computational concepts, as well as computational thinking, and apply these appropriately.
- Show pupils how major innovations in computing contribute to societal change and how this impacts both positively and negatively on our everyday lives
- Helping pupils to learn to question and discuss issues that may affect their own lives
- Helping pupils to engage with the changing technological landscape safely and with knowledge of potential pitfalls through delivery of age appropriate online safety throughout the year
- Providing cross-curricular links when relevant, particularly to give a connected curriculum.
- Offering ongoing and specific CPDL to all staff to enable them to confidently deliver aspects of the Computing curriculum.

IMPLEMENTATION:

We use [Rising Stars: Switched on Computing](#) as the basis for our computing curriculum, adapting it to suit our schools' circumstances with additional materials from [commonsense media](#), [code-it](#), [code club](#) and [Barefoot Computing](#). The range of source material ensures that we cover the objectives as set out in the [National Curriculum for Computing \(2014\)](#).

Foundation Stage:

Objectives for children in the Foundation Stage are taken from the Technology aspect of the Specific Area: Understanding the world which states that:

- By the end of the Foundation stage most children will be able to recognise that a range of technology is used in places such as homes and schools; and that they will be able to select and use technology for particular purposes.

Computing in the Foundation Stage is delivered by the teaching staff using a range of physical devices and computer based materials, some of which are online. Content is based upon, but not limited to, topics being covered throughout the academic year.

Children have access to this range of experiences throughout the year, working either independently or in groups to explore, develop and grow their understanding and skills.

Key Stage 1

By the end of Key stage 1 children should be able 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

[\(from: National Curriculum for Computing 2014\)](#)

Year 1:

Topic Overview						
1	Unit 1.1 – We are treasure hunters	Unit 1.2 – We are TV chefs	Unit 1.3 – We are painters	Unit 1.4 – We are collectors	Unit 1.5 – We are storytellers	Unit 1.6 – We are celebrating

The Year 1 Computing curriculum is taught by the class teacher. Children begin to make use of our computer suite and the ability to log into both shared and personal spaces on the school network. They use a range of software packages throughout the year as well as 'BeeBots' (programmable floor turtles/robots).

Online Safety is covered using online materials at various points throughout the year and is also delivered as an integral part of the Switched on Computing units.

Links are made to other subject areas as often as possible to enable children see how aspects of computing can be used to enhance and support learning; to enable recording and sharing of work as well as store, edit and repurpose work.

Year 2:

Topic Overview						
2	Unit 2.1 – We are astronauts	Unit 2.2 – We are games' testers	Unit 2.3 – We are photographers	Unit 2.4 – We are researchers	Unit 2.5 – We are detectives	Unit 2.6 – We are zoologists

The Year 2 Computing curriculum is taught by the class teacher. Children continue to use the computer suite but extend its use through access to the school's G Suite for Education platform. Children use tablet computers to take photos and record video using 'Green Screen' equipment. They use software to edit images, create slideshows and documents, create computer code to fulfil a number of simple programming tasks.

Online Safety is covered using online materials at various points throughout the year and is also delivered as an integral part of the Switched on Computing units.

Links are made to other subject areas as often as possible to enable children see how aspects of computing can be used to enhance and support learning; to enable recording and sharing of work as well as store, edit and repurpose work.

Key Stage 2

By the end of Key stage 2 children should be able 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

[\(from: National Curriculum for Computing 2014\)](#)

Year 3:

Topic Overview						
3	Unit 3.1 – We are programmers	Unit 3.2 – We are bug fixers	Unit 3.3 – We are presenters	Unit 3.4 – We are network engineers	Unit 3.5 – We are communicators	Unit 3.6 – We are opinion pollsters

The Year 3 Computing curriculum is taught by the Assistant Head Teacher in a two hour block on a fortnightly basis. Children continue to use the computer suite and the school's G Suite for Education platform. Children use tablet computers to take photos and record video. Children use a number of G Suite applications including Forms to gather information and look at data. Programming is developed through the use of the online programming platform '[Scratch](#)'.

Online Safety is covered using online materials at various points throughout the year and is also delivered as an integral part of the Switched on Computing units.

Links are made to other subject areas as often as possible to enable children see how aspects of computing can be used to enhance and support learning; to enable recording and sharing of work as well as store, edit and repurpose work.

Year 4:

Topic Overview						
4	Unit 4.1 – We are software developers	Unit 4.2 – We are toy designers	Unit 4.3 – We are musicians	Unit 4.4 – We are html editors	Unit 4.5 – We are co-authors	Unit 4.6 – We are meteorologists

The Year 4 Computing curriculum is taught by the Assistant Head Teacher in a two hour block on a fortnightly basis. Children continue to use the computer suite and the school's G Suite for Education platform. Children use a range of G Suite Applications to develop and complete tasks. [Scratch](#) is used to develop understanding and use of block based programming skills, together with Sonic Pi which focuses on the use of programming to create music.

Online Safety is covered using online materials at various points throughout the year and is also delivered as an integral part of the Switched on Computing units.

Links are made to other subject areas as often as possible to enable children see how aspects of computing can be used to enhance and support learning; to enable recording and sharing of work as well as store, edit and repurpose work.

Year 5:

Topic Overview					
5	Unit 5.1 – We are game developers Crumble Light Activity	Unit 5.3 – We are artists	Unit 5.2 – We are cryptographers	Unit 5.4 – We are web developers Unit 5.5 – We are bloggers	Unit 5.6 – We are architects

The Year 5 Computing curriculum is taught by the Assistant Head Teacher in a two hour block on a fortnightly basis. Children continue to use the computer suite and the school’s G Suite for Education platform. They use a range of G Suite Applications to develop and complete tasks. [Scratch](#) continues to be used to develop an understanding of block based programming, in this case to create a range of shape based art. Programming is built on through the addition of a physical computing element making use of Redfern Electronics: [Crumble Microcontroller](#), which also links to Design and Technology curriculum.

Online Safety is covered using online materials at various points throughout the year and is also delivered as an integral part of the Switched on Computing units. The unit entitled ‘We are Cryptographers’ looks at the work of [Bletchley Park and the Enigma Machine](#). It also focuses on security on the web and the reasons behind the use of passwords.

Links are made to other subject areas as often as possible to enable children see how aspects of computing can be used to enhance and support learning; to enable recording and sharing of work as well as store, edit and repurpose work.

Year 6:

Topic Overview			
6	Crumble merry go round	Website	Sonic Pi

The Year 6 Computing curriculum is taught by the Assistant Head Teacher in a two hour block on a fortnightly basis. Children continue to use the computer suite and the school’s G Suite for Education platform. Children use a range of G Suite Applications to develop and complete tasks. Children consolidate aspects learnt over previous years through the creation of an amusement park ride which combines elements of the year 6 Design and Technology curriculum. Children programme the ride making use of the [Crumble Microcontroller](#) which encompasses a physical computing element. They then create a website to go with the ride using Google Sites and related music using Sonic Pi music programming platform.

Online Safety is covered using online materials from Commonsense Media at various points throughout the year.

Links are made to other subject areas as often as possible to enable children see how aspects of computing can be used to enhance and support learning; to enable recording and sharing of work as well as store, edit and repurpose work.

IMPACT:

This is the impact of the teaching:

- Confident children who can talk about computing, its impact on their lives and the world around them.
- Confident children who can see when best to use technology and when not to.
- Confident children who have a depth of understanding/application in different contexts.

This is how we monitor the impact

- Tracking grids submitted to HT each term for analysis.
- Discussion, marking and feedback.

This is how we use intervention:

- Children are provided different levels of support depending on need this may comprise a different set of materials to work from or more adult support.

This is how we challenge the rapid graspers:

- Problem solving in different contexts.
- Deepening reasoning and justification.
- Generalising and testing understanding of concepts.