



# Shinewater Primary Computing Programme of Study

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## INTRODUCTION

"A brand new Computing curriculum was published in September 2013 - drawn up not by bureaucrats but by teachers and other sector experts, led by the British Computer Society and the Royal Academy of Engineering, with input from industry leaders like Microsoft, Google and leaders in the computer games industry. Now in operation, the 2014 Computing Curriculum provides less prescriptive than the old, discredited ICT curriculum, allowing Academics room to innovate, and be much, much more ambitious." (*Michael Gove, 2014 BETT Conference*)

At Shinewater Primary School we have fully embraced the opportunity to rethink our approach to teaching Computing skills and create a rigorous, challenging and, most importantly, purposeful Computing Curriculum.

Predominantly, the new Computing Curriculum has transformed dramatically to provide a digital skillset tailored to what our next generation learners require to compete in a constantly evolving technological society. From 5, children will learn to code and program, with algorithms, sequencing, selection and repetition; from 11, how to use at least 2 programming languages to solve computational problems; to design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems; and how instructions are stored and executed within a computer system.

Breaking this down, Shinewater Primary School separates Computing in three new elements:

### OUR PROGRAMME OF STUDY

**Computer science:** the scientific and practical study of computation; what can be computed, how to compute it, and how computation may be applied to the solution of problems.

**Information technology:** concerned with how computers and telecommunications equipment work, and how they may be applied to the storage, retrieval, transmission and manipulation of data.

**Digital literacy:** the ability to effectively, responsibly, safely and critically navigate, evaluate and create digital artefacts using a range of digital technologies.

This, in turn, is translated into six key teaching strands.

- Our Digital World
- Programming 1
- Electronic Safety
- Handling Data
- Programming 2
- Digital Presentation

## **OUR DIGITAL WORLD**

- What are the common uses of technology in our lives?
- What can we learn about the computer networks we use?
- What are the things we do on the Internet?
- How can we communicate and collaborate with others?
- How do we use technology purposefully and effectively to search for, and to retrieve digital content?
- How do we evaluate digital content?

## **PROGRAMMING 1 & 2**

- How do you create and debug programs?
- How do you use sequence, selection and repetition in programs?
- What are algorithms and how will they help you solve problems?
- How can you develop logical thinking to explain and correct errors in algorithms and programs?

## **ELECTRONIC-SAFETY**

- How do we use technology safely, respectfully and responsibly?
- Where do we go for help and support?
- What should we keep private?

## **HANDLING DATA**

- How do we use technology purposefully to create, organise, store, manipulate and retrieve data?
- What devices and software will we use and combine to collect, analyse, evaluate and present data?

## **DIGITAL PRESENTATION**

- How do we use technology purposefully to create, organise, store, manipulate and retrieve digital content?
- What devices and software will we use and combine to accomplish given goals?
- How will we present information?

The Computing curriculum demands a broad, balanced and secure understanding of its specific demands. To ensure a sound program of teaching and learning, Shinewater Primary School has allocated a Specialised Teacher to undertake the role of Lead Computing Teacher. This role enables efficient joint planning of Computing, team teaching computing lessons, resourcing lesson-specific hardware and software and quickly resolving day-to-day logistical issues.

## **PROGRESSION OF SKILLS**

Teaching and learning Computing is based around the goal of equipping all pupils, from Reception to Year 6, with tailored skills, tuned to their age and ability. Our End of Year Expectations were initially based on a wide range of recognised sources to include elements of Somerset/Elim (e-Learning & Information Management), Norfolk ICT Curriculum, ICT assessor Ian Addison, ICT specialist Simon Haughton, Naace (National Association for Promoting Technology), All Teach as well as Langney Primary Academy's IT SLE's own expertise and passion to drive digital learning forward.

## **CUTTING EDGE INITIATIVES**

Shinewater Primary School prides itself on carefully selecting only the most purposeful elements of cutting technology. All pupils, have their own cloud-based storage via Google's G Suite, providing a wide range of online office applications on a range of devices from anywhere with internet connection, in and out of Academy. Pupils in Year 4 and 6 benefit from the use of Chromebooks, which links to their Google account. This has had a significant impact on pupil engagement in the class as well as promoting and enhancing digital literacy skills.

## **EXTRA-CURRICULAR**

In addition to Computing session, Shinewater Primary School pupils are given the opportunity to take part in extra-curricular computing activities such as digital photography, digital photo editing, programming, typing skills, Coding and virtual reality.