

# Computing Curriculum Statement

## Vision

At St Andrew's we recognise that technology is rapidly changing the world that we live in, which is why we have teamed up with the computing leads in the local authority to help to develop a new scheme of work. **Computing** has deep links with **Mathematics, Science, and Design and Technology**, and provides insights into both natural and artificial systems. The vision of the new scheme is to enable our pupils to have the life skills that will help them to embrace and utilise new technology in a socially responsible and safe way.

## Aims

Our principal aim is that children leave St. Andrews's CE VC Primary School with a wide range of happy and rich memories in Computing formed through interesting and exciting experiences. Ensuring that children see learning in Computing as an ongoing process not a one-off event that helps to prepare them for the jobs of the future.

Our primary focus when developing the curriculum, was to focus on the progression of skills in **digital literacy, computer science, information technology and online safety** to ensure that children become competent in safely using, as well as understanding, technology.

Children will develop a deep understanding of how to use many different aspects of technology by revisiting at different points throughout their school life, delving deeper to ensure the learning is embedded and skills are successfully developed. Our intention is that Computing also supports children's creativity and cross curricular learning to engage children and enrich their experiences in school.

## Characteristics of a Computer Scientist

- They can analyse and represent symbolically a sequence of events.
- Recognise different types of data: text; number; instruction.
- Understand the need for care and precision of syntax and typography in giving instructions.
- Give instructions involving selection and repetition.
- They can 'think through' an algorithm and predict an output.
- Present data in a structured format suitable for processing.
- Discuss social and ethical issues raised by the role of computers in our lives.
- Use a wide range of technology safely, respectfully and responsibly.

## Our Learning Journey



## A Knowledge rich curriculum

At St. Andrew's, we have worked with other Computing leads and the South Gloucestershire team to ensure that Computing units are carefully planned sequentially so that elements of it are regularly returned to, supporting children to accumulate knowledge over time.

The Children will be taught to:

### **Key stage 1**

- 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.

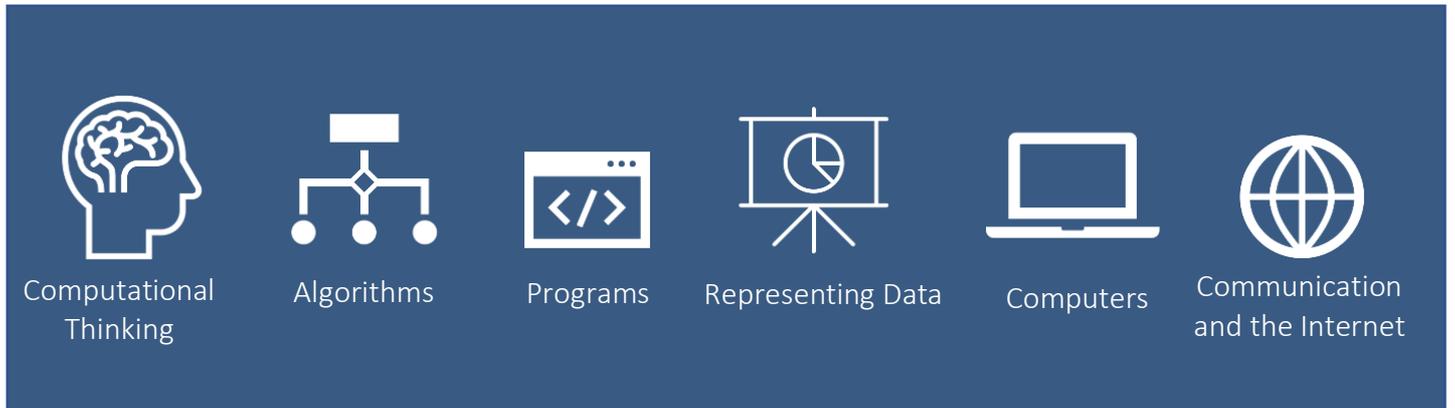
### **Key stage 2**

The Children will 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.

## Computing in Action

Computing is underpinned by the children putting their knowledge and understanding into action by understanding several key concepts:



## Knowledge to be remembered not merely encountered

At St. Andrew's, Computing is carefully planned sequentially so that elements of it are regularly returned to, supporting children to accumulate knowledge over time. The knowledge will be carefully mapped and shared through a knowledge organiser in order to build a strong schema.

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.