Our Computing Vision

Our GEM threads

Values: Our children will adopt and celebrate the schools GEM powers

Knowledge: Our children will learn an enriched and ambitious curriculum

Progression: Our children will 'do more, know more and remember more.'

Language and vocabulary: Our children will use oracy to be confident communicators

Experience rich: Our children will receive culturally diverse opportunities to thrive.

Intent

The use of information and communication technology is an integral part of the National Curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. The aim of this document is to provide an overview to the Computing Curriculum across the Key Stages. 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.

Language and Vocabulary rich implementation:

To enhance the teaching and learning of all curriculum areas within the school, teachers employ a range of strategies including:

- *Demonstrating to the whole class/group using the IWB.*
- *Discussion with the whole class/group.*
- *Individual or paired working.*
- *Collaborative group work.*
- *Encouraging pupils to demonstrate new skills to others*

Progression led implementation:

• We have used the best research to create a well sequenced and progressive curriculum map containing the key concepts children need to be procedurally fluent and to work and think like computing professionals. The key concepts in computing we plan a progression for are as follows:

- Problem solving and logical thinking
- Creative Content
- Digital literacy In order to ensure progression and continuity throughout the school, the school has developed a curriculum map which outlines curriculum coverage, progression and context of computing as a discreet subject and across the curriculum

Computing Implementation

Knowledge and skills-based implementation:

It is important in the foundation stage to give children a broad, play-based experience of computing in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature computing scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or program a toy. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language. The use of problem solving via computational thinking is introduced to start children thinking computationally.

- In years 1-6, Computing learning is planned from the National Curriculum statements and incorporated into termly year group topics that include learning about and 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.
- 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

Computing Impact

Each term the SciCo KAT meet several times to discuss the progress and learning being undertaken and progress made throughout the school. During the year, the KAT scrutinizes planning, carry out learning walks, book looks, pupil conferences and report to the Senior Leadership Team and class teachers.

At the end of each term, teachers assess individual children's progress against the appropriate National Curriculum statements for the aspects that have been taught.
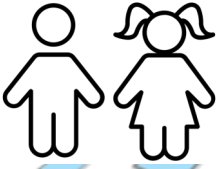
In our federation the children will be encouraged to evaluate both their work and the computer effectiveness.

The nature of computing as a tool means that there will be many opportunities for links with other subjects.

Our Computing Journey

What is a computer>

Improving mouse skills

Algorithms unplugged

Online safety

Beebot

International space station

Journey of a computer

Programming scratch

Video trailers

Investigating weather

Networks and the internet

Online safety

Bletchley Park

Stop motion animation

Search Engine

History of computers

Programming music

Intro to Python

Online safety

KS1

LKS2

UKS2