LLOYD WILLIAMSON
SCHOOLS

Year 7 ICT

Curriculum

Year 7 ICT

Introduction

The Year 7 ICT curriculum will build on skills learned in Key Stage 2.

Key Concepts: Building Foundations

- **Computational Thinking:** Introduce basic concepts of computational thinking, such as problem-solving, pattern recognition, and algorithm design. Use unplugged activities to foster these skills.
- **Programming:** Begin with a visual programming language like Scratch to create simple animations and games. Explore basic programming constructs (variables, loops, conditionals).
- **Digital Literacy:** Develop understanding of digital citizenship, online safety, and responsible use of technology. Introduce concepts of intellectual property and copyright.
- **Hardware and Software:** Explore the components of a computer system (CPU, memory, storage, input/output devices) and their functions. Understand the difference between hardware and software.
- **Data Representation:** Introduce binary numbers and their relationship to decimal numbers. Perform simple binary operations (addition, subtraction).

Learning Objectives

Pupils will be taught to:

- Use computational abstractions to model real-world problems and physical systems.
- Understand and use key algorithms for sorting and searching.
- Use two programming languages, including one textual language, to solve computational problems.
- Understand simple Boolean logic (AND, OR, NOT) and its uses in circuits and programming.
- Understand how numbers are represented in binary and perform simple operations on binary numbers.
- Understand the hardware and software components of computer systems and how they communicate.

- Understand how instructions are stored and executed in a computer system.
- Understand how data of various types (text, sounds, pictures) is represented and manipulated digitally.
- Use technology safely, respectfully, responsible, and securely, including protecting their online identity.

Teaching and Learning Activities

- Introduction to computational thinking and problem-solving using unplugged activities.
- Programming using Scratch or Python to create simple animations and games.
- Exploration of hardware components (CPU, motherboard, input/output devices) and their functions.
- Learning about binary numbers and their representation.
- Creating digital artefacts (e.g., presentations, videos) using a variety of software tools.
- Developing understanding of online safety and digital citizenship.

Assessment Objectives:

Pupils will be assessed on their ability to:

- Create and use computational models to solve problems.
- Design and implement algorithms using programming languages.
- Explain the concepts of Boolean logic and binary numbers.
- Describe the components of computer systems and their functions.
- Represent and manipulate data digitally.
- Use technology safely and responsibly.

Evaluation and Review

The curriculum will be reviewed annually to ensure its effectiveness. Feedback from students, teachers, and parents will be considered in the review process.

Updated August 2024

Next review: August 2025