



Year 9 ICT
Curriculum



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Introduction

The Year 9 curriculum will revise and build on prior knowledge and skills learned in Year 8.

Key Concepts: Advanced Concepts

- **Database Management:** Learn about relational databases and SQL. Design and query simple databases.
- **Computer Graphics:** Explore the basics of computer graphics (2D and 3D). Create simple graphics using software tools.
- **Artificial Intelligence:** Introduce concepts of AI, including machine learning and artificial neural networks. Explore simple AI applications.
- **Ethical and Social Implications:** Discuss the ethical and social implications of technology, such as privacy, bias, and digital divide.
- **Independent Projects:** Encourage students to undertake independent projects and integrate their learning from previous years.

Learning Objectives

Pupils will be taught to:

- Design and develop computational abstractions for a range of problems.
- Use logical reasoning to choose appropriate algorithms.
- Use programming languages to solve complex problems efficiently.
- Understand the concept of abstraction and its use in programming.
- Understand how computers represent and manipulate text, sounds, and pictures.
- Create and use digital artefacts for a variety of purposes.
- Evaluate the impact of technology on society and individuals.



Assessment Objectives:

Pupils will be assessed on their ability to:

- Design and develop computational models for complex problems.
- Choose appropriate algorithms and justify their choices.
- Write efficient and well-structured programs.
- Explain the concept of abstraction and its applications.
- Describe how computers represent and manipulate different types of data.
- Create and use digital artefacts effectively.
- Analyse the impact of technology on society and individuals.

Teaching and Learning Activities

- Designing and implementing large-scale programming projects (e.g., databases, control systems).
- Exploring advanced algorithms and data structures.
- Learning about computer graphics and image processing.
- Creating digital artefacts for real-world applications (e.g., websites, apps).
- Investigating the impact of technology on society (e.g., automation, e-commerce).
- Developing skills in critical thinking and problem-solving.

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