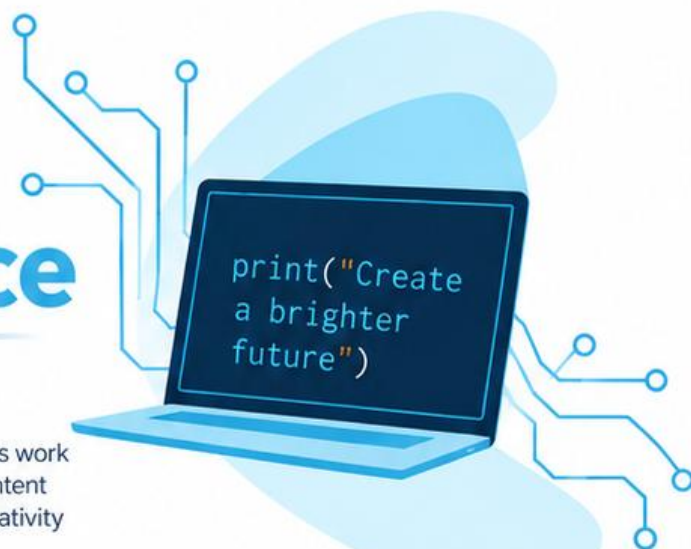




Year 9 Computer Science

CURRICULUM OVERVIEW

In Year 9, students deepen their understanding of how computer systems work and apply their knowledge and skills to solve problems, create digital content and complete a real-world project. The curriculum builds confidence, creativity and digital literacy, preparing students for GCSE and beyond.



1

Computer Systems

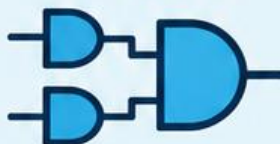


Exploring how computers work and their impact on the world.

- Inputs, processing and outputs
- Hardware and software
- Operating systems and their roles
- Security software and disk tools
- Primary and secondary storage (RAM, ROM, cloud storage)
- Law, ethics and environmental impact (e-waste)
- How computers change our lives

2

Logical Thinking and Algorithms



Using logic and structure to solve problems.

- Recap of logic gates (AND, OR, NOT)
- Logic circuits and truth tables
- Converting between binary, denary and hexadecimal
- Adding binary numbers and overflow
- Units of data storage (bit to TB)
- Algorithms, flowcharts and pseudocode
- Using mathematical operators in computing

3

Programming



Writing and developing programs to solve problems.

- Sequencing, selection and iteration
- Variables, data types and input/output
- String handling (concatenate, length, find characters)
- Using comments
- Creating shapes and simple programs
- Developing problem solving skills

4

Image Editing



Creating and editing digital images for different purposes.

- Using editing tools (brush, clone, text, shapes)
- Selection tools and adjustment layers
- Enhancing and manipulating images
- The role of image editing in media and social media
- Ethical considerations when editing images

5

Summer Project



Applying your skills to a real-world project.

- Designing a logo, ticket and poster
- Using spreadsheets and databases
- Calculating profit and analysing data
- Presenting information effectively
- Understanding how businesses use technology

6

iDEA Award



Building your digital skills for the future.

- Developing digital literacy
- Completing online challenges and badges
- Building confidence with technology
- Preparing for further study and future careers
- Opportunity to take part in the Bebras Challenge and Oxford University Computing Challenge (top 25% nationally)



Developing Key Skills

Problem solving | Logical thinking
Creativity | Digital literacy
Collaboration | Independent learning



Wider Opportunities

- Bebras Challenge
- Oxford Computing Challenge
- iDEA Digital Awards
- Real-world projects
- Exploring future careers in technology



Assessment

A range of quizzes, practical tasks, classwork and project work is used to check understanding and support progress.



Where Next?

Year 9 builds the knowledge and skills needed for GCSE Computer Science and beyond, opening doors to a wide range of exciting careers in technology.