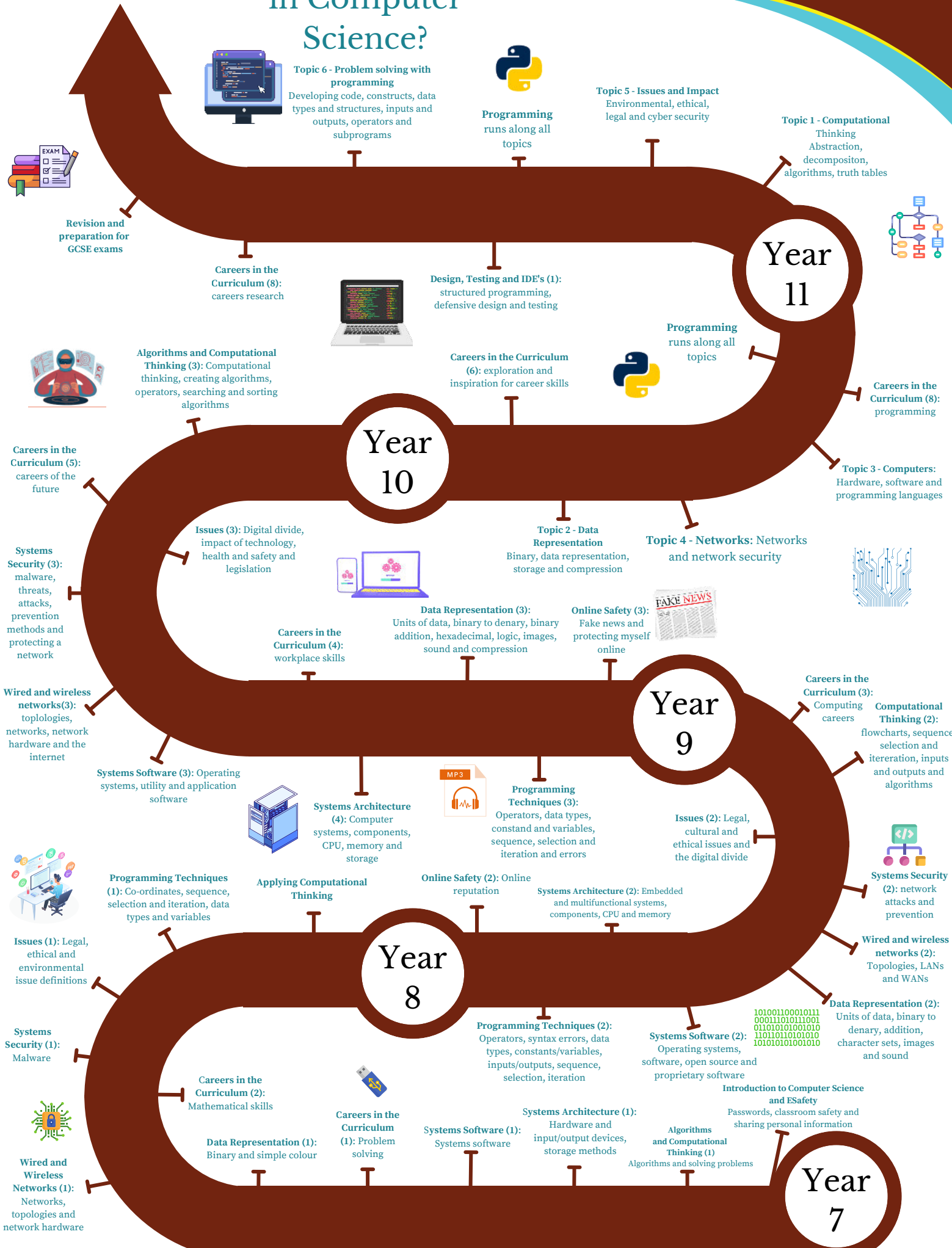




What will I learn in Computer Science?



Year 11

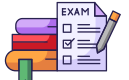
Topic 1 - Computational Thinking
Thinking, Abstraction, decomposition, algorithms, truth tables

Topic 5 - Issues and Impact
Environmental, ethical, legal and cyber security



Programming runs along all topics

Topic 6 - Problem solving with programming
Developing code, constructs, data types and structures, inputs and outputs, operators and subprograms



Revision and preparation for GCSE exams

Careers in the Curriculum (8): careers research

Design, Testing and IDE's (1): structured programming, defensive design and testing



Careers in the Curriculum (6): exploration and inspiration for career skills



Programming runs along all topics



Careers in the Curriculum (8): programming

Year 10

Topic 3 - Computers: Hardware, software and programming languages

Topic 4 - Networks: Networks and network security

Topic 2 - Data Representation
Binary, data representation, storage and compression

Issues (3): Digital divide, impact of technology, health and safety and legislation



Data Representation (3): Units of data, binary to denary, binary addition, hexadecimal, logic, images, sound and compression

Careers in the Curriculum (4): workplace skills

Online Safety (3): Fake news and protecting myself online

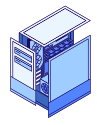


Careers in the Curriculum (5): careers of the future

Systems Security (3): malware, threats, attacks, prevention methods and protecting a network

Wired and wireless networks(3): topologies, networks, network hardware and the internet

Systems Software (3): Operating systems, utility and application software



Systems Architecture (4): Computer systems, components, CPU, memory and storage



Programming Techniques (3): Operators, data types, constant and variables, sequence, selection and iteration and errors

Issues (2): Legal, cultural and ethical issues and the digital divide

Careers in the Curriculum (3): Computing careers

Computational Thinking (2): flowcharts, sequence, selection and iteration, inputs and outputs and algorithms



Programming Techniques (1): Co-ordinates, sequence, selection and iteration, data types and variables

Applying Computational Thinking

Online Safety (2): Online reputation

Systems Architecture (2): Embedded and multifunctional systems, components, CPU and memory

Systems Security (2): network attacks and prevention

Issues (1): Legal, ethical and environmental issue definitions

Systems Security (1): Malware

Year 8

Wired and wireless networks (2): Topologies, LANs and WANs

Data Representation (2): Units of data, binary to denary, addition, character sets, images and sound



Systems Software (2): Operating systems, software, open source and proprietary software

Programming Techniques (2): Operators, syntax errors, data types, constants/variables, inputs/outputs, sequence, selection, iteration

Introduction to Computer Science and eSafety
Passwords, classroom safety and sharing personal information

Systems Architecture (1): Hardware and input/output devices, storage methods

Algorithms and Computational Thinking (1)
Algorithms and solving problems

Careers in the Curriculum (2): Mathematical skills

Careers in the Curriculum (1): Problem solving

Systems Software (1): Systems software

Data Representation (1): Binary and simple colour

Wired and Wireless Networks (1): Networks, topologies and network hardware

Year 7