



# Computer Science KS3 Intent

## Engagement:

The aim of the KS3 Computer Science curriculum at Queensbridge is to engage pupils with the fundamental principles and concepts of Computer Science. It provides pupils with the opportunity to become familiar with Computational Thinking methods and encourages pupils to think creatively, innovatively and logically.

## KS4:

The Schemes of Work in KS3 have been designed directly with KS4 in mind. Each Scheme of Work covers parts of the of the Computer Science curriculum which aim to provide students with a foundation knowledge of key concepts which they can then go on to further develop in KS4. The range of topics delivered within the KS3 curriculum ensure pupils gain some exposure to both areas of the Computer Science curriculum covering both programming and theory topics and therefore has been designed to specifically prepare students for their practical and theoretical areas in KS4 Computer Science.

## Literacy:

The ability to understand and use key terminology well is an integral part of Computer Science and pupils are continuously encouraged to read relevant texts which will enable them to strengthen their knowledge and understanding of this terminology allowing them to accurately and effectively use suitable terms in their written responses to tasks.



## Year 7:

- Week 1: E-safety & Legislation
- Week 2: Computational Thinking
- Week 3: Syntax, flowcharts & pseudocode
- Week 4: Touchdevelop
- Week 5: Algorithms
- Week 6: Business, Globalisation & Technology
- Week 7: Artificial Intelligence
- Week 8: BBC Microbit Coding
- Week 9: Website/independent project

## Methodology:

Each week within the Cycle pupils are provided with a new focus. This allows students to get a real feel for the vast variety of topics that are covered within Computer Science and allow them to apply Computational Thinking methods to very different scenarios strengthening their knowledge and ability to use each Computational Thinking method.

## KS4 Skills:

Year 7 is dedicated to developing the basic skills required for Computer Science. Pupils spend their cycle developing an understanding on how Computational Thinking can be used in a range of scenarios to help us solve problems more effectively and efficiently, an important lesson in preparation for KS4.

## Year 8:

- Week 1: Python, input & output
- Week 2: Python, variables & data types
- Week 3: Selection & IF statements
- Week 4: Logic gates
- Week 5: Binary and Denary
- Week 6: Iteration
- Week 7: Python Consolidation
- Week 8: Lists
- Week 9: Python Challenges

## Methodology:

In this year, pupils are gently introduced to key programming skills which are expanded on and developed every week. This early exposure to common programming constructs will allow students to begin building simple Python programs and build an awareness of programming skills required for KS4.

## KS4 Skills:

Year 8 is dedicated to the development of key Programming Constructs enabling pupils to apply basic programming skills to build programs that fulfil simple sets of requirements and be able to coherently explain each of the methods used within their programs in preparation for KS4.

## Year 9:

- Week 1: SWOT Analysis
- Week 2: Computer Systems
- Week 3: Central Processing Unit
- Week 4: Storage Devices
- Week 5: Memory
- Week 6: Networking
- Week 7: Computer Systems Consolidation Task
- Week 8: Systems Software
- Week 9: Photoshop / Careers

## Methodology:

In this year, pupils are introduced to some of the common theory based topics within Computer Science. This ensures students have been able to gain exposure to both parts of the GCSE specification and are well informed on the type of content that will be covered- both programming and theory.

## KS4 Skills:

Year 9 is dedicated to the development of knowledge around the theory based topics covered within GCSE Computer Science. It aims to provide students with the opportunity to develop their understanding on Computer Systems and what goes on behind the scenes of a computer.