Year 8 Long Term Scheme of Learning 2023-24

Computer Science

HELSBY High School
Achieving Success Valuing Others

Date	Exams/ Assess	Unit(s)
4/9/23		**Unit 8 - Algorithms (6 lessons)** Online baseline test Informally, the term 'algorithm' has come to refer to any set of rules that precisely define a sequence of operations, such as making a cup of tea or cleaning your teeth. In the world of computing, an algorithm is a set of instructions that can be implemented as code to program a computer. Students will use computational thinking, a logical, strategic approach to problem solving involving four cornerstones: decomposition, abstraction, pattern recognition and algorithm design to formulate a efficient and effective algorithms.
11/9/23		
18/9/23		
25/9/23		
2/10/23		
9/10/23		
16/10/23		
30/10/23		**Unit 11 – Binary and computer logic (6 lessons + 1 catch-up lesson)** This module will provide the students with an insight into how a digital processor works, as well as teaching them how data can be represented as a series of bits.
6/11/23		
13/11/23	■	
20/11/23	■	
27/11/23		
4/12/23		
11/12/23		
1/1/24		**Unit 9 – Programming in Python: Selection (6 lessons)** This module covers the second key programming construct, selection, and the use of if statements. Throughout this module, students write and test their own code to solve coding challenges and develop their programming skills.
8/1/24		
15/1/24		
22/1/24		
29/1/24		
5/2/24		
12/2/24		
26/2/24		**Unit 10 – Internet safety, cyber security and encryption (6 lessons)** The module sets up a scenario for students: they have been hired by the new cyber security office for the International Space Organisation and are required to carry out various tasks to help protect the sensitive computer systems and data.
4/3/24		
11/3/24		
18/3/24		
25/3/24		
15/4/24		**Unit 7 – Advanced spreadsheets (6 lessons)** Spreadsheets are incredibly useful and powerful tools. They are used every day by people in all sorts of ways, from storing information about products and stock levels to managing multi-million-pound budgets. This module focuses on more advanced features of spreadsheets, including new functions, form controls and macros to develop more bespoke and user-friendly spreadsheets. Online baseline test (Assessment week)
22/4/24		
29/4/24		
6/5/24		
13/5/24	■	
20/5/24	■	
3/6/24		**Unit 16 – Ethics of computing (6 lessons)** This module will give students the opportunity to investigate some of the wider ethical issues surrounding modern information technologies, including the moral, environmental and legal issues that can arise in the digital age. Most lessons encourage students to form opinions and develop arguments. Students will end the module with an in-depth case study looking at the moral dilemmas associated with driverless cars. If a member of staff is absent and because Computer Science is only allocated one lesson per week, some units might over run. Lessons are also missed due to INSET days etc.
10/6/24		
17/6/24		
24/6/24		
1/7/24		
8/7/24		
15/7/24		