

Computing

Preparing students for tomorrow, bit by bit

The Computing department will help to create, share, and apply knowledge in all branches of Computer Science and ICT. We will educate students to be successful, ethical, and effective problem-solvers with a passion to innovate and create, rather than just passive consumers and users of technology. We will develop an understanding and appreciation of all aspects of digital products, from how they work to how they look. We will foster curiosity and encourage exploration to create students who can contribute positively to the well-being of our society and who are prepared to tackle the complex 21st Century challenges facing the world.

Summary focus areas:

- Innovate, create, develop
- Solving 21st Century problems
- Active developers not passive consumers

Autumn	Spring	Summer	
E-Safety	Business modelling and simulations	Introduction to programming	Development of computing

Homework for Computing is set with half-termly themes that cover a range of concepts and topics to extend and supplement the curriculum delivered in lessons. Students are offered a menu of activities to choose between, with each activity being worth a number of 'points' based on its size, complexity or difficulty. Each half-term students will be expected to hand in any combination of activities they choose that add up to the required target number of points. By giving the students flexibility to choose their homework tasks and when they complete them across the half-term helps to develop independence, resilience and time-management skills. Activity choices could include tasks such as:

- Research and presentation of findings
- Creative use of video, animation and sound to present understanding
- Visual representations of concepts and theories
- Literacy-based activities, such as poetry or song lyrics for a topic
- Comprehension-based quizzes

Completed activities will be collected and marked at the end of each half-term block, but students are free to hand in completed work throughout the period to help them balance and manage their workload.

Unit	Duration (lessons)	Learning Objectives/Outcomes
Introduction to school network and systems/ CATs testing	6	<ul style="list-style-type: none"> • Completion of CATs tests • Logging on and network security • Use of the VLE and email
E-Safety	14	<ul style="list-style-type: none"> • Sensible online behaviour • The dangers and impact of cyber-bullying • Social networking
Business modelling and simulation	18	<ul style="list-style-type: none"> • Spreadsheet terminology • Storing basic data electronically • Formatting • Basic formulas • Basic functions • Graphs and charts • Benefits of using charts
Introduction to programming	18	<ul style="list-style-type: none"> • What is computer programming? • Code efficiency • Procedures • Other languages • Variables & Data Structures • Sorting Algorithms • Shape & Space • Broadcasts • Commenting
Systems Development	10	<ul style="list-style-type: none"> • The Systems Lifecycle • Developing a system