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
Data Handling	Animation	Programming	Databases	Pre-Production and Digital Graphics – Making a Comic

Homework for Computing is designed to cover a range of concepts and topics to extend and supplement the curriculum delivered in lessons. Students can hand in homework either digitally or on paper, and will be expected to exercise their creative as well as academic skills. Homework helps to develop independence, resilience and time-management skills. Activities could include tasks such as:

- Research and presentation of findings
- Creative use of graphics and design 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, and failure to submit homework on time will require students to attend interventions to ensure this is not left unsubmitted for too long.

Unit	Duration (lessons)	Learning Objectives/Outcomes
Data Handling	8	• What makes a successful or 'good' spreadsheet? • Interpreting a client brief for client requirements • Identifying audience and purpose • Creating a spreadsheet to meet requirements • Using advanced spreadsheet functions and formulas • Using advanced spreadsheet tools and techniques • How to evaluate a successful spreadsheet project
Animation	8	• Researching types & history of animation • What makes a successful animation? • Interpreting a client brief for client requirements • Creating an animated image for a client • How to evaluate a successful animation project
Programming	8	• How to write computer code • How to handle numbers and text interchangeably • How to use variables & arrays/lists • How to use iteration/loops • How to use random numbers and IF/ELSE statements • How to test programs thoroughly and find bugs • How to evaluate a successful programming project
Databases	7	• Uses of data and databases • Database terminology • Creating databases using Microsoft Access • Using Queries to search for information • Using Forms and Reports to present information • Using Mail merge to automate operations
Pre-Production and Digital Graphics	8	• Interpreting a client brief, identifying audience and purpose • Developing Pre-Production Documents to plan a character • Creating a comic character • Creating a comic strip using specialist software • How to evaluate a successful comic strip project