

Subject: **Computer Science**

Topics covered:

- Advanced Spreadsheet Modelling
- Text based programming with SmallBasic and Python
- Using Web2.0 applications
- GUI / Event driven programming with Visual Basic
- Spreadsheets and modelling; using advanced features

Skills Developed:

- Using formulas for text and number manipulation. Multiple sheet models.
- Data collection, processing and analysis.
- Creating GUI/Form Applications
- Structured programming involving subroutines and functions.
- Programming skill development via independent challenges

Learning Objectives:

- design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- understand several key algorithms that reflect computational thinking
- use two or more programming languages, at least one of which is textual, to solve a variety of computational problems;
- understand simple Boolean logic (such as AND, OR and NOT) and some of its uses in circuits and programming
- understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users
- create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability
- understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.

Support Material:

We based support materials will be regularly updated on the Managed Learning Environment.

What you could do to support your daughter:

Home Internet access is desirable. A PC or laptop with Microsoft Office applications (including Access) installed is beneficial although all homework can be completed in school time if necessary.

Encourage your daughter to use ICT for research, collaboration and presentation for all areas of the curriculum.