

Autumn Term

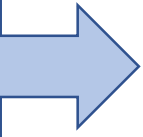
Spring Term

Summer Term

Start of year 7

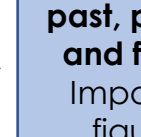
Learning cycle 1

**Getting Started:**  
Logging on, saving files, sending emails, safety



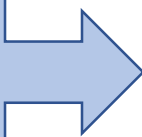
Learning cycle 2

**Introducing Spreadsheets:**  
Using basic formulae.



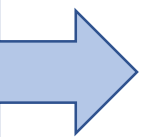
Learning cycle 3

**Computing – past, present and future:**  
Important figures, Moore's Law



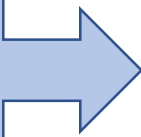
Learning cycle 4

**Programming in Scratch:**  
Sequencing, selection, iteration



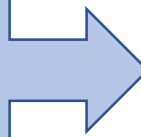
Learning cycle 5

**Computing components:**  
Input and output devices, memory.



Learning cycle 6

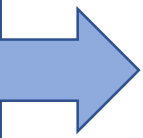
**Programming in Python: sequence:**  
Basic programming constructs



Start of year 8

Learning cycle 1

**Advanced spreadsheets:**  
Using more advanced functions



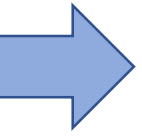
Learning cycle 2

**Algorithms:**  
Abstraction, decomposition, pattern recognition



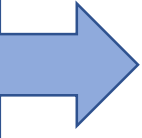
Learning cycle 3

**Programming in Python: selection:**  
Condition controlled loops



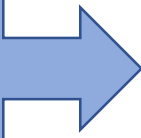
Learning cycle 4

**Internet safety, cyber security and encryption**



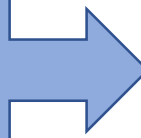
Learning cycle 5

**Binary and computer logic**



Learning cycle 6

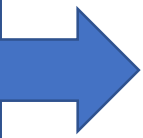
**Sound and video editing**



Start of year 9

Learning cycle 1

**Designing websites:**  
Basic HTML tags



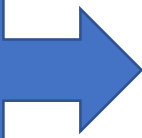
Learning cycle 2

**Networking and the Internet**



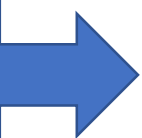
Learning cycle 3

**Programming in Python: iteration:**  
Count controlled loops



Learning cycle 4

**The ethics of computing:**  
Intellectual property and copyright



Learning cycle 5

**Projects (end-of-KS3-assessment):**  
Two projects



Autumn Term

Spring Term

Summer Term

Start of year 10

**Learning cycle 1**

**Python programming**  
Variables and input; datatypes and operations; selection; for loops; while loops and menus; functions and procedures. Number bases, binary arithmetic.

**Learning cycle 2**

**Python programming**  
Lists; 2D lists; validation; error handling. Representing images, representing sound, data compression, aspects of software development.

**Learning cycle 3**

**Python programming:**  
dictionaries; reading from text files; writing to text files.  
**Algorithms:**  
pseudocode; flowcharts; structure charts; designing a solution.

**Learning cycle 4**

Programming from design work: writing a test plan; testing using a plan; trace tables. Representing algorithms; efficiency of algorithms; searching algorithms.

**Learning cycle 5**

**Programming practise**  
**Relational databases**  
**Structured query language**

Start of year 11

**Learning cycle 1**

Fundamentals of cyber security; cyber security threats; social engineering; malicious code;

**Learning cycle 2**

**Non-examined assessment**

**Learning cycle 3**

Fundamentals of computer networks; network protocols; network security; CPU; fetch execute cycle; memory and secondary storage; cloud storage

**Learning cycle 4**

Ethical, legal and environmental impacts.

**Learning cycle 5**

Revision based on mock exam results

**Learning cycle 6**

Revision based on mock exam results