

## All Saints Computing @ KS3

The new national strategy for Computing includes some traditional ICT but is mostly related to pupils' understanding of how a computer functions, rather than how to use the application programmes which run on a computer. The learning is split into three strands

- Computing
- Digital Literacy
- Information Technology

At All Saints School the Computing Department breaks down its teaching time into three blocks for each of Year 7 and Year 8 with a common teaching approach based on collegiate resources for ten week teaching patterns, although the teacher will apply their own teaching style and differentiation of the material according to the pupils in the class. Rotations between teachers occur every ten school weeks, with teaching colleagues focussing on their preferred block of interest such that all pupils are facilitated through each teaching block by the end of KS3. Pupil targets for each unit are expressed in pupil friendly language covering the 1-9 scale.

### Year 7

- Computing history and computational thinking
- Using the Internet including E-safety plus How the Web Works, and Web-creation using HTML
- Scratch and Excel

### Year 8

- Computing creativity with Micro-bits and Kodu
- Programming in Python and App design
- Movie Making and Cyber-crime

Lesson targets come under the following headings summarised as follows in the DfE guidance

- Design use and evaluate computational abstraction that model the state and behaviour of real world problems and physical systems **Kodu, Excel, Scratch**
- Understand several key algorithms which reflect computational thinking (sort/search) and use logical reasoning to compare the utility of algorithms for the same problem **Python, Excel**
- Use two or more programming languages, at least one of which is textual, to solve computational problems, make appropriate use of data structures (lists, tables, arrays) to design and develop modular programs which use procedures or functions **Kodu, Scratch, Python**
- Understand simple Boolean logic and some of its uses in circuits and programming, understand how numbers can be stored and represented in binary, and be able to carry out simple operations on binary numbers **How the web works, Scratch, Computational thinking**
- Understand the hardware and software components that make up a computer system and how they communicate with other systems **Computational thinking, E-safety, Web-page design**
- Understand how instructions are stored and executed within a computer system
- Understand how data of various types can be represented and manipulated digitally
- Undertake creative projects that involve selecting, using and combining multiple applications, preferably across a range of devices, to meet challenging goals, including the collection and analysis of data and meeting the needs of known users **Web-page design, Movie making**
- Create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability **Movie making**
- Understand a range of ways to use technology safely, responsibly, respectfully and securely, including protecting online identities and privacy, recognising inappropriate content and knowing how to report concerns **E-safety, Cyber-crime**