National Curriculum Computing

Computing

Computers are now part of everyday life. For most of us, technology is essential to our lives, at home and at work. 'Computational thinking' is a skill children must be taught if they are to be ready for the workplace and able to participate effectively in this digital world.

Changes to the existing curriculum from 2014

Computing is a new subject and replaces what was previously known as ICT
The following therefore are all new objectives:

KS1 –

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programmes execute by following precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Recognise common uses of information technology beyond school
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies

KS2 –

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

The computing curriculum is broken down into three main areas:

- Computer Science
- Digital Literacy
- Information Technology

Computer Science

- **Computer Science:** Computer science is a very large subject with lots of applications. Computer scientists design new software, solve computing problems and develop different ways to use technology. (BBC Bitesize)

- **http://www.bbc.co.uk/education/subjects/zyhbwmn**

"90% of European jobs require ICT skills, and yet there will be 900'000 unfilled ICT positions in the EU by 2020"

Digital Literacy

- The ability to locate, organise, understand, evaluate, and analyse information using digital technology. It involves a working knowledge of current high-technology, and an understanding of how it can be used. Digitally literate people can communicate and work more efficiently, especially with those who possess the same knowledge and skills.

- Research around digital literacy is concerned with wider aspects associated with learning how to effectively find, use, summarize, evaluate, create, and communicate information while using digital technologies, not just being literate at using a computer.

- Digital literacy encompasses computer hardware, software (particularly those used most frequently by businesses), the Internet, cell phones and other digital devices. A person using these skills to interact with society may be called a digital citizen.

Digital Literacy

- Basic keyboard and mouse skills.
- Simple use of 'office applications' such as word processing, presentations and spreadsheets.
- Use of the Internet, including browsing, searching and creating content for the Web, communication and collaboration via e-mail, social networks, collaborative workspace and discussion forums.

Information Technology

- Deals with the creative and productive use and application of computer systems, especially in organisations, including considerations of e-safety, privacy, ethics, and intellectual property.

So what does this look like in reality at Friars...

- Teachers use Espresso Coding Units to teach the children 'Coding'.

- Teachers use a mixture of the 'Switched On' computing scheme of Work and 'Plantit' schemes from Twinkl, as well as the Scheme of work developed with the CLC of Wandsworth, to deliver units of work in Digital Literacy and Information Technology.

- The schemes of work are also be used flexibly across the year to tie in with different CLJ units.

Curriculum Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EY						
Year 1	Coding Unit 1A On the Move	Information Technology – 'Planit' Unit Computing Skills	Digital Literacy – IPads- Make a sequence of pictures using IMovie	Information Technology – 'Planit' unit Word Processing Skills	Coding Unit 1B Simple Inputs	Phonics Focus
Year 2	Coding Y2 Starter unit – 3 sessions	Coding Unit 2A Different Sorts of Input	Digital Literacy Switched On Unit – We are Photographers	Information Technology - IPads Create an eBook about chocolate	SATs	Coding Unit 2B Buttons and Instructions
Year 3	Coding Y3 Starter unit – 3 sessions	Coding Unit 3A Sequences and Animation	Digital Literacy Switched On Unit IPads– We are Presenters	Information Technology – 'Planit' Unit Word Processing Skills	Coding Unit 3B Conditional Events	Digital Literacy – PowerPoint Presentations
Year 4	Coding Y4 Starter unit	Coding Unit 4A Introductions to Variables	Digital Literacy - Use iMotion HD to create a stop motion animation about The Vikings or Roald Dahl.	Information Technology - Switched on 4.6 'We are Meteorologists'	Coding Unit 4B Repetition and Loops	Digital Literacy – Switched On 4.2 'We are Co-Authors' (use PowerPoint/ Google Slides)
Year 5	Coding Y5 Starter unit	Coding Unit 5A Speed, Direction and Coordinates	Information Technology – 'Planit' internet research and webpage design	Digital Literacy – Film Make a film with video, images, text, and voiceover. Look at camera angles, distance and framing.	Coding Unit 5B Random Numbers & Simulations	Digital Literacy – iPad iMotion HD – Animating – steps in italics are more advanced
Year 6	Coding Y6 Starter unit	Coding Unit 6A More Complex Variables	Information Technology – iPad – Book Creator/ iMovie	Coding Unit 6B Object Properties	SATs	Digital Literacy – 'Planit' film making Unit

Computing Assessment

Assessment for learning (AfL) techniques that are familiar in other subjects apply to computing. The following AfL approaches are used when assessing computing.

- **Self-assessment/blogs**
- **Peer-assessment**
- **Open questioning**
- **Discussion with peers**
- **Target setting**
- **KWL**