Chilton Computing Curriculum

Computing is a subject which allows our children to adapt to a forever changing world and become positive digital citizens. At Chilton, we follow the DFE funded 'Teach Computing' curriculum. Computing can be broken down into three strands:

Computer Science | Information Technology | Digital Literacy

Computer science helps children understand how computers and programmes work and how they are designed and programmed. Children will have the opportunity to learn basic programming. Information Technology allows the children to use existing computer programs to develop products and solutions. Digital literacy gives children the skills, knowledge and understanding needed in order to participate fully and safely in an increasingly digital world. .

Children will begin studying Computing in Year 1 and will build on the skills and knowledge they have learned as they move through the school. Whilst now discrete Computing takes place in Early Years, children will be exposed to a range of digital devices as well as working on basic computational thinking by following algorithms and problem solving.

Computing will be taught for 30 minutes a week throughout the year. Computing lessons will be evidenced online on Seesaw, which will then be used in the next year group and so on to show the progression of skills and learning for the year. Our Curriculum allows children to work with a range of technological devices but also includes a number of 'unplugged' lessons, that require no additional technology.

KS1: Key Stage 1 (teachcomputing.org)

Year 1

Unit 1: Computing systems and networks – Technology around us (teachcomputing.org)

Unit 2: Creating media – Digital painting (teachcomputing.org)

Unit 3: Programming A – Moving a robot (teachcomputing.org)

Unit 4: Data and information – Grouping data (teachcomputing.org)

Unit 5: Creating media – Digital writing (teachcomputing.org)

Unit 6: Programming B - Programming animations (teachcomputing.org)

Year 2

Unit 1: Computing systems and networks – IT around us (teachcomputing.org)

Unit 2: Creating media – Digital photography (teachcomputing.org)

Unit 3: Programming A – Robot algorithms (teachcomputing.org)

Unit 4: Data and information – Pictograms (teachcomputing.org)

Unit 5: Creating media - Digital music (teachcomputing.org)

Unit 6: Programming B - programming quizzes (teachcomputing.org)

KS2: Key Stage 2 (teachcomputing.org)

Year 3

Unit 1: Computing systems and networks – Connecting computers (teachcomputing.org)

Unit 2: Creating media - Stop-frame animation (teachcomputing.org)

Unit 3: Programming A - Sequencing sounds (teachcomputing.org)

Unit 4: Data and information – Branching databases (teachcomputing.org)

Unit 5: Creating media – Desktop publishing (teachcomputing.org)

Unit 6: Programming B - Events and actions in programs (teachcomputing.org)

Year 4

Unit 1: Computing systems and networks – The Internet (teachcomputing.org)

Unit 2: Creating media - Audio production (teachcomputing.org)

Unit 3: Programming A – Repetition in shapes (teachcomputing.org)

Unit 4: Data and information – Data logging (teachcomputing.org)

Unit 5: Creating media – Photo editing (teachcomputing.org)

Unit 6: Programming B – Repetition in games (teachcomputing.org)

Year 5

Unit 1: Computing systems and networks - systems and searching (teachcomputing.org)

Unit 2: Creating media - Video production (teachcomputing.org)

Unit 3: Programming A – Selection in physical computing (teachcomputing.org)

Unit 4: Data and information – Flat-file databases (teachcomputing.org)

Unit 5: Creating media - Introduction to vector graphics (teachcomputing.org)

Unit 6: Programming B – Selection in quizzes (teachcomputing.org)

Year 6

Unit 1: Computing systems and networks - Communication and collaboration (teachcomputing.org)

Unit 2: Creating media – Web page creation (teachcomputing.org)

Unit 3: Programming A – Variables in games (teachcomputing.org)

Unit 4: Data and information - Introduction to Spreadsheets (teachcomputing.org)

Unit 5: Creating media – 3D Modelling (teachcomputing.org)

Unit 6: Programming B - Sensing movement (teachcomputing.org)

Unit User Guides:

User guides are available for each unit on the links above and provide:

- Unit introduction
- Overview of lessons
- Progression information
- Curriculum links
- Assessment information
- Subject knowledge information.

Useful Vocabulary:

Debugging – finding and fixing mistakes in a computer program

Network – two or more computers connected together to share information

Input – Data that goes into a computer

Output – Information that comes out of a computer

Process – Where data is changed into useful information

Coding – a set of instructions in a language that a computer can understand.

Algorithm – step by step instructions to solve a problem (written for people to understand, not computers)

Repetition – doing the same instruction more than once

Selection – when your program has to make a choice based on conditions given

Sequencing – more than one instruction that has to be followed in order

Program – a list of instructions that tells a computer exactly what to do

Programming – designing a sequence of rules needed to complete a task and then writing these in a language that the computer understands (eg Scratch)

Unplugged - activities that are designed to teach computational thinking skills, computing concepts, procedures and processes without the use of any digital technology

Variable – something that your program needs to remember may change

Useful links:

https://teachcomputing.org/ - DFE funded Computing resources, courses, information etc

https://royalsociety.org/topics-policy/projects/computing-in-schools/report/ - 2012 report that prompted the change from 'ICT' to 'Computing'

https://padlet.com/computingwork/WAGOLL - Examples of computing learning

https://beinternetlegends.withgoogle.com/en_uk - Google resource that enables children to use the Internet safely and wisely (Interland is a very cool game to play with various 'worlds')

https://www.barefootcomputing.org/ - Free online Computing resources and guides

https://scratch.mit.edu/ - very user friendly coding resource

https://beebot.terrapinlogo.com/ - online BeeBot emulator