



Chilton Primary School Computing Curriculum

Computing is a subject which allows our children to adapt to a forever changing world and become positive digital citizens. At Chilton, our computing curriculum is 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. Computing should be taught for an hour a week and for 3 out of 6 terms of the year, alternating with French. Computing lessons should be recorded in a scrapbook containing printouts, worksheets, photos and other evidence. These scrapbooks should then be passed up to the next year group to show a progression of learning and how learning builds on previous year's learning. 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:

Year 1

Unit 1: [Computing systems and networks – Technology around us \(teachcomputing.org\)](https://www.teachcomputing.org/)

To identify technology

To identify a computer and its main parts

To use a mouse in different ways

To use a keyboard to type

To use the keyboard to edit text

To create rules for using technology responsibly

Unit 2: [Creating media – Digital writing \(teachcomputing.org\)](https://www.teachcomputing.org/)

To use a computer to write

To add and remove text on a computer

To identify that the look of text can be changed on a computer

To make careful choices when changing text

To explain why I used the tools that I chose

To compare writing on a computer with writing on paper

Unit 3: [Programming B – Introduction to animation \(teachcomputing.org\)](https://www.teachcomputing.org/)

To choose a command for a given purpose



To show that a series of commands can be joined together

To identify the effect of changing a value

To explain that each sprite has its own instructions

To design the parts of a project

To use my algorithm to create a program

Year 2

Unit 1: [Computing systems and networks – IT around us \(teachcomputing.org\)](https://www.teachcomputing.org/)

To recognise the uses and features of information technology

To identify information technology in the home

To identify information technology beyond school

To explain how information technology benefits us

To show how to use information technology safely

To recognise that choices are made when using information technology

Unit 2: [Creating media – Digital photography \(teachcomputing.org\)](https://www.teachcomputing.org/)

To know what devices can be used to take photographs

To use a digital device to take a photograph

To describe what makes a good photograph

To decide how photographs can be improved

To use tools to change an image

To recognise that images can be changed

Unit 3: [Programming B – An introduction to quizzes \(teachcomputing.org\)](https://www.teachcomputing.org/)

To explain that a sequence of commands has a start

To explain that a sequence of commands has an outcome

To create a program using a given design

To change a given design

To create a program using my own design

To decide how my project can be improved

Alternative units are available at: [Key Stage 1 \(teachcomputing.org\)](https://www.teachcomputing.org/)

KS2:

Year 3

Unit 1: [Computing systems and networks – Connecting computers \(teachcomputing.org\)](https://www.teachcomputing.org/)



- To explain how digital devices function
- To identify input and output devices
- To recognise how digital devices can change the way we work
- To explain how a computer network can be used to share information
- To explore how digital devices can be connected
- To recognise the physical components of a network

Unit 2: [Creating media – Desktop publishing \(teachcomputing.org\)](https://teachcomputing.org)

- To recognise how text and images convey information
- To recognise that text and layout can be edited
- To choose appropriate page settings
- To add content to a desktop publishing publication
- To consider how different layouts can suit different purposes
- To consider the benefits of desktop publishing

Unit 3: [Programming B – Events and actions \(teachcomputing.org\)](https://teachcomputing.org)

- To explain how a sprite moves in an existing project
- To create a program to move a sprite in four directions
- To adapt a program to a new context
- To develop my program by adding features
- To identify and fix bugs in a program
- To design and create a maze based (given) challenge

Year 4

Unit 1: [Computing systems and networks – The Internet \(teachcomputing.org\)](https://teachcomputing.org)

- To describe how networks physically connect to other networks
- To recognise how networked devices make up the internet
- To outline how websites can be shared via the World Wide Web
- To describe how content can be added and accessed on the World Wide Web
- To recognise how the content of the WWW is created by people
- To evaluate the consequences of unreliable content

Unit 2: [Creating media – Photo editing \(teachcomputing.org\)](https://teachcomputing.org)

- To explain that digital images can be changed
- To change the composition of an image



To describe how images can be changed for different uses

To make good choices when selecting different tools

To recognise that not all images are real

To evaluate how changes can improve an image

Unit 3: [Programming B – Repetition in games \(teachcomputing.org\)](https://teachcomputing.org)

To develop the use of count-controlled loops in a different programming environment

To explain that in programming there are infinite loops and count controlled loops

To develop a design which includes two or more loops which run at the same time

To modify an infinite loop in a given program

To design a project that includes repetition

To create a project that includes repetition

Year 5

Unit 1: [Computing systems and networks – Sharing information \(teachcomputing.org\)](https://teachcomputing.org)

To explain that computers can be connected together to form systems

To recognise the role of computer systems in our lives

To recognise how information is transferred over the internet

To explain how sharing information online lets people in different places work together

To contribute to a shared project online

To evaluate different ways of working together online

Unit 2: [Creating media – Video editing \(teachcomputing.org\)](https://teachcomputing.org)

To recognise video as moving pictures, which can include audio

To identify digital devices that can record video

To capture video using a digital device

To recognise the features of an effective video

To identify that video can be improved through reshooting and editing

To consider the impact of the choices made when making and sharing a video

Unit 3: [Programming B – Selection in quizzes \(teachcomputing.org\)](https://teachcomputing.org)

To explain how selection is used in computer programs

To relate that a conditional statement connects a condition to an outcome

To explain how selection directs the flow of a program

To design a program which uses selection



To create a program which uses selection

To evaluate my program

Year 6

Unit 1: [Computing systems and networks – Communication \(teachcomputing.org\)](https://www.teachcomputing.org)

To identify how to use a search engine

To describe how search engines select results

To explain how search results are ranked

To recognise why the order of results is important, and to whom

To recognise how we communicate using technology

To evaluate different methods of online communication

Unit 2: [Creating media – Web page creation \(teachcomputing.org\)](https://www.teachcomputing.org)

To review an existing website and consider its structure

To plan the features of a web page

To consider the ownership and use of images (copyright)

To recognise the need to preview pages

To outline the need for a navigation path

To recognise the implications of linking to content owned by other people

Unit 3: [Programming A – Variables in games \(teachcomputing.org\)](https://www.teachcomputing.org)

To define a 'variable' as something that is changeable

To explain why a variable is used in a program

To choose how to improve a game by using variables

To design a project that builds on a given example

To use my design to create a project

To evaluate my project

Alternative units are available at: [Key Stage 2 \(teachcomputing.org\)](https://www.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