



Computing and ICT Year Plan 2020-2021

Foreword:

- *This plan is subject to change as the year progresses – changes may be caused for reasons such as: subjects which are particularly grabbing the children’s attention, big computing news in current affairs, tailoring to meet the needs of a creative curriculum area, new software and hardware availability...*
- *Though there is a teaching block given over to e-safety, e-safety will be embedded throughout the year and regularly discussed and re-visited.*
- *Relevant tech news will feature regularly in lessons as a method of showing the relevance of what we study to the real world (a trigger for conversation and thinking) and as “wow” opportunities to continue to instil a sense of wonder about the age of digital technology in which we are living.*
- *Some digital literacy / IT lessons will be split between inputs / discussions and coding challenge activities.*
- *Key: **NC** with a numbers or letters denotes the areas of the computing curriculum covered – please see the National Curriculum Subject Content section below the year plan for details.*

Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1 6 weeks	All about computers Learning about computers, the internet, how to handle tech, icons, folders... + Mouse and Keyboard skills. NC 5 + 6	What is a computer network? What is the Internet? Reinforcing ideas about computers and the internet, what they are and how they work. NC 1, 5 + 6	What is the Internet? How do search engines work? Reinforcing ideas about computers and the internet, what they are and how they work. NC D + E	What is the Cloud? Exploring what the Cloud is, how it works and understanding how important it is to our modern world. NC D + E + F	Sensing, conditionals and variables in coding. Creating a driving game requiring the creation of a background, using sensing functions, conditionals and variables in Scratch. NC A, B, C	Understanding how computers really work. Exploring a series of concepts, from the history of computers, to physical components to Binary. NC D
Half term 26/10/20 – 30/10/20						
Autumn 2 7 weeks	Starting to understand coding with Purple Mash Introduction the idea of instructions, sequence and breaking down problems into steps using 2Go. NC 1, 2, 3	Coding challenges with code.org Exploring sequencing, debugging, prediction and logical thinking through coding challenges. NC 1, 2, 3	Getting to know Scratch Exploring the Scratch user interface and practising basic skills and functions to create an animated fish tank. NC A, B, C	Coding Christmas shape patterns in Scratch + learning how to create code blocks. Focus on repeat loops and pattern spotting – also learning how to create code blocks out of a string of instructions. NC A, B, C	AI and chatbots – coding a quiz with Scratch. Learning about what AI and chatbots are and why they are a major part of our world. Focus on more complex conditionals by creating and coding a quiz. NC A, B, C	All about variables – coding a story maker in Scratch. Focus on stored variables – learning how a program can retrieve stored information. NC A, B, C
Christmas holiday 21/12/20 – 04/01/21						
Spring 3 6 weeks	e-Safety and growing up digital. Online survey of computer and internet use at home. Safer Internet Day 2019 themes. NC 6	e-Safety and growing up digital. Online survey of computer and internet use at home. Safer Internet Day 2019 themes. NC 6	e-Safety and growing up digital. Online survey of computer and internet use at home. Safer Internet Day 2019 themes. Internet safety based upon survey findings. NC E, G	e-Safety and growing up digital. Online survey of computer and internet use at home. Safer Internet Day 2019 themes. Internet safety based upon survey findings. NC E, G	e-Safety and growing up digital + understanding our digital world. Online survey of computer and internet use at home. Safer Internet Day 2019 themes. Internet safety based upon survey findings. NC E, G	e-Safety and growing up digital + understanding social media. Online survey of computer and internet use at home. Safer Internet Day 2019 themes. Internet safety based upon survey findings. NC E, G
Spring half term 15/02/21 – 19/02/21						

Spring 4 <i>6 weeks</i>	Coding with Kodable Solving simple directional problems using computational thinking. Also navigating around software NC 1, 2, 3	Coding with Lightbot and Tynker Prediction, debugging, sequencing and repeat loops through problem solving in different coding environments. NC 1, 2, 3	Coding music with Scratch Exploring the use of sound and repeat loops through coding. NC A, B, C	Stop motion animation in Scratch Exploring the use of costume changes and repeat loops to create animation. NC A, B, C	Creating a searchable database Understanding what a database is, planning and creating a working searchable database using 2Investigate. NCE, F	Creating a quiz using PowerPoint Developing skills in software – exploring functionality and conditionals. NC F
Easter holiday 01/04/21 – 1/04/21						
Summer 5 <i>6 weeks</i>	Coding with code.org Solving problems using computational thinking in a different coding environment. Sequence, debug and being to look at pattern spotting. NC 1, 2, 3	Getting to know Scratch Jr Solving problems using computational thinking in a different coding environment. Paired work on iPads NC 1, 2, 3	Animating a name using Scratch Exploring animation effects such as different ways of moving and changing appearance + adding sounds. NC A, B, C	Exploring CAD Understanding what CAD software is and the vital role it plays in many industries today. Learning to add, manipulate and create using Autocad NCE, F	Exploring CAD Understanding what CAD software is and the vital role it plays in many industries today. Learning to add, manipulate and create using Autocad NCE, F	Exploring CAD Understanding what CAD software is and the vital role it plays in many industries today. Learning to add, manipulate and create using Autocad NCE, F
Summer half term 01/06/21 – 04/06/21						
Summer 6 <i>7 weeks</i>	Making Music! Creating digital tunes with PurpleMash Creating digital art and music. Making a summer picture and a summer tune. NC 4, 5	Technology all around us: Exploring the world through Google Maps + MS Word Technology all around us: Google Maps, GPS. Use Screen shots and MS word to make a poster about where they live (continent, country, county, town, road). NC 4, 5	Exploring software by making shapes and patterns with MS Word Exploring how software works and how functions are arranged and accessed. NC F	Terraforming with Kodu: Exploring coding in a different software environment Tinkering, creating, persevering and debugging. NC A, B, C	Creating a game by coding with Kodu Planning, predicting and creating using a different coding environment. E.g. Crossy Road, penalties, Race game... NC A, B, C	Creating a game by coding with Kodu Planning, predicting and creating using a different coding environment. . E.g. Crossy Road, penalties, Race game... NC A, B, C
Summer holiday starts – 26/07/21						

Computing Curriculum – key stages 1 and 2 Subject content

Key stage 1

Pupils should be taught to:

1. Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
2. Create and debug simple programs.
3. Use logical reasoning to predict the behaviour of simple programs.
4. Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
5. Recognise common uses of information technology beyond school.
6. 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.

Key stage 2

Pupils should be taught to:

- A. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- B. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
- C. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- D. 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.
- E. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- F. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- G. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.