

Durley CE (Controlled) Primary School

Computing Curriculum – Long Term Overview



INTENT

The National Curriculum states:

“A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.”

Technology is now a fundamental part of everyday life, and we aim to equip our pupils with the knowledge and skills they need to use technology confidently, positively, responsibly and safely. We want to educate pupils to use computational thinking and creativity that will enable them to become effective participants in the digital world. It is important to us that the children understand how to use the ever-changing technology to express themselves, as tools for learning and as a means to drive their generation forward into the future. Within our computing curriculum, pupils will become familiar with logic, algorithms and data representation and will be constantly evaluating technology. Furthermore, pupils will be continuously made aware of measures they can take to keep themselves and others safe online. Weaving through the heart of our computing education is a commitment to enhancing and promoting our core Christian Values: Love, Respect and Forgiveness.

IMPLEMENTATION

Our Computing curriculum ensures pupils develop skills within computer science, digital literacy, IT and online safety. Our curriculum is developed from Rising Stars “Switched on Computing” ensuring we have a coherent, complete computing curriculum, which helps pupils progress their knowledge, understanding and skills. Our progressive approach allows pupils to continuously deepen and challenge their learning. Our curriculum is taught in discreet computing lessons ensuring children develop depth in their knowledge and skills. It is then further enhanced by meaningful application in other curriculum subjects allowing pupils to apply their learning, express themselves and select and use technology effectively. In every aspect of computing, pupils are taught to identify safety issues and we participate in the national Safer Internet Day every year to support and enhance this understanding.

IMPACT

The impact of our curriculum is that children become confident, respectful users of technology with an ability to balance technology with a healthy lifestyle. Our broad curriculum will inspire and motivate pupils and encourage them to constantly ask “why?” as well as “how?”. Our pupils will be well equipped with a wide range of knowledge and skills for their progression into Key Stage 3. In a world where technology is rapidly evolving, our pupils will feel motivated and able to use and develop technology for various purposes both now and in the future.

Computing Long Term Overview					
Year 1 2022-2023					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are digital artists SoC 1.3	We are detectives SoC 1.6	We are treasure hunters SoC 1.1 (+ Safer Internet Day)	We are publishers SoC 1.4	We are rhythmic SoC 1.5	We are TV chefs SoC 1.2
PaintZ for Chromebooks or Brushes Redux and SketchBook on iPads	Popplet Google Forms Google Sheets iPads or Chromebooks	Blue-Bots and Blue-Bot app iPads or Chromebooks	Google Slides on Chromebooks or Book Creator and Google Photos on iPads	Scratch Jr app Garage Band iPads or Chromebooks	Camera and iMovie apps on iPads
Creating work inspired by great artists	Using data to solve clues	Solving problems using programmable toys	Creating a multimedia eBook about our achievements	Creating sound patterns in Scratch Jr and GarageBand	Filming the steps of a recipe
IT - Creativity	IT - Data	CS - Coding	DL – Online Safety	IT - Media	CS – Computational Thinking
<ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school 	<ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 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. Recognise common uses of information technology beyond school. 	<ul style="list-style-type: none"> Understand what algorithms are; how they are implemented as programs on digital devices and that programs execute them by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. 	<ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 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. Recognise common uses of information technology beyond school. 	<ul style="list-style-type: none"> Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school. Understand what algorithms are 	<ul style="list-style-type: none"> Understand what algorithms are. Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.

Computing Long Term Overview

Year 2 2022-2023

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are astronauts. SoC 2.1	We are games tester SoC 2.2	We are safe researchers SoC 2.4	We are photographers. SoC 2.3	We are animators SoC 2.5	We are zoologists SoC 2.6
ScratchJr Scratch iPads or Chromebooks	Scratch iPads or Chromebooks	Popplet Google Slides Google custom search Chromebooks	Camera app Photo app Snapseed iPads or Chromebooks	Stop Motion Studio iPads or Chromebooks	Google Sheets, Google Docs, Google My Maps, Google Slides, Camera app, Photos app iPads or Chromebooks
Programming on screen in ScratchJr	Working out the rules for games	Researching a topic	Taking, selecting and editing digital images	Creating a stop motion animation	Collecting data about bugs
CS - Coding	CS – Computational Thinking	DL – Online Safety	IT - Media	IT - Media	IT - Data
<ul style="list-style-type: none"> • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute them by following precise and unambiguous instructions. • Create and debug simple programs. • Use logical reasoning to predict the behaviour of simple programs. 	<ul style="list-style-type: none"> • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute them by following precise and unambiguous instructions. • 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. 	<ul style="list-style-type: none"> • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • 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. 	<ul style="list-style-type: none"> • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • 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. 	<ul style="list-style-type: none"> • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • 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. 	<ul style="list-style-type: none"> • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • 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.

Computing Long Term Overview

Year 3, 4, 5 Cycle 1 2022-2023

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are programmers. SoC 3.1	We are bug fixers SoC 3.2 +Online Safety	We are artists. SoC 4.5 (+ Safer Internet Day)	We are meteorologists. SoC 4.6	We are web developers. SoC 5.4	We are architects. SoC 5.3
Scratch	Scratch + Childnet: Kara, Winston and the Smart Crew	Inkscape or Scratch	Google Sheets and Google Slides	Google Chrome Google Sites	SketchUp
Programming an animation with a theme of 'Earth & Space'	Finding and correcting bugs + completing the online safety programme	Fusing geometry and art using a theme of earthquakes and volcanoes	Presenting the weather	Making sense of the Internet and building a website, linked to the topic of the UK and Southampton	Create a virtual space, for example a virtual museum linked to UK and Southampton topic
CS - Coding	CS – Computational Thinking	CS - Coding	IT - data	DL - Safety	IT - Media
<ul style="list-style-type: none"> design, write and debug programs that accomplish specific goals, solve problems by decomposing them into smaller parts. use sequence in programs; work with variables and various forms of output. use logical reasoning to detect and correct errors in algorithms and programs. 	<ul style="list-style-type: none"> debug programs that accomplish specific goals. 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. use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<ul style="list-style-type: none"> use sequence, selection, and repetition in programs; work with variables and various forms of output 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 	<ul style="list-style-type: none"> work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms work use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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. 	<ul style="list-style-type: none"> understand computer networks, including the internet; how they can provide multiple services, and the opportunities they offer for communication and collaboration select, use and combine software to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns. be discerning in evaluating digital content 	<ul style="list-style-type: none"> use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 information

Computing Long Term Overview

Year 3, 4, 5 Cycle 2 2023-2024

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are who we are. SoC 3.4	We are presenters. SoC 3.3 +Online Safety	We are makers. SoC 4.2 (+ Safer Internet Day)	We are musicians. SoC 4.3	We are cryptographers. SoC 5.2	We are AI developers. SoC 5.6
Google Slides	Popplet + Thinkuknow: Play-Like-Share	Microsoft MakeCode micro:bit	GarageBand	Scratch	Google Street View/Maps GarageBand CoSpaces
Creating presentations about ourselves	Videoing a presentation against a green screen	coding for micro:bit	Creating a piece of music in GarageBand linked to the theme of Rivers	Cracking codes	Experimenting with virtual and augmented reality
DL - Safety	IT - Media	CS - Coding	IT - Media	CS – Computational Thinking	CS - Coding
<ul style="list-style-type: none"> select, use and combine a variety of software to design and create content that accomplish given goals, including presenting information use technology safely, respectfully and responsibly 	<ul style="list-style-type: none"> 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 information use technology safely, respectfully and responsibly 	<ul style="list-style-type: none"> design, write and debug programs that accomplish specific goals. 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. 	<ul style="list-style-type: none"> use sequence, and repetition; work with various forms of input and output be discerning in evaluating digital content select, use and combine a variety of software on a range of digital devices to design and create a range of content that accomplishes given goals use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 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 information

Computing Long Term Overview

Year 3, 4, 5 Cycle 3 2024-2025

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Online Safety	We are opinion pollsters. SoC 3.6	We are co-authors. SoC 3.5 (+ Safer Internet Day)	We are bloggers. SoC 4.4	We are adventure gamers. SoC 5.5	We are game developers. SoC 4.1/5.1
INTERLAND: Be Internet Legends	Google Forms	Google Sites or Popplet	WordPress/Blogger/ Audacity	Google Slides Voice Recorder	Scratch
Complete the online safety programme	Collecting and analysing data linked to 'healthy bodies' topic	Producing a Wiki	Sharing experiences and opinions	Creating an interactive adventure using presentation software	Developing an interactive, educational game
DL - Safety	IT - Data	IT - Media	DL - Safety	IT - Media	CS - Coding
<ul style="list-style-type: none"> use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> 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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<ul style="list-style-type: none"> 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 a variety of software (including internet services) on a range of digital devices to design and create a range of content that accomplish given goals. use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour 	<ul style="list-style-type: none"> use search technologies effectively use a variety of software (including internet services) on a range of digital devices to design and create content that accomplish given goals, including presenting information use technology safely, respectfully and responsibly 	<ul style="list-style-type: none"> 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.

Computing Long Term Overview

Year 6 2022-2023

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
We are toy makers SoC 6.1	We are computational thinkers SoC 6.2	We are advertisers SoC 6.5 (+ Safer Internet Day) Childnet film competition	We are connected SoC 6.4	We are AI developers SoC 6.6	We are publishers SoC 6.3
Scratch	Scratch Google Maps	Microsoft photos/WeVideo	WordPress/Blogger	Scratch, Audacity, Google Chrome	Google docs or Microsoft Publisher
Coding and physical computing	Mastering algorithms for searching, sorting and maths	Creating a short television advert	Developing skills for social media	Learning about artificial intelligence and machine learning	Creating a yearbook or magazine
CS - Coding	CS – Computational Thinking	IT - media	DL - Safety	IT - media	IT - media
<ul style="list-style-type: none"> • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems • use sequence, selection, and repetition in programs; work with 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 	<ul style="list-style-type: none"> • design, write and debug programs that accomplish specific goals • 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 	<ul style="list-style-type: none"> • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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 • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact 	<ul style="list-style-type: none"> • 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 search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content 	<ul style="list-style-type: none"> • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use and combine a variety of software 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 	<ul style="list-style-type: none"> • understand computer networks, including the internet; and the opportunities they offer for communication and collaboration • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • 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 • use technology safely, respectfully and responsibly

