Crawford Village
Primary School & Nursery

Small enough to care...big enough to inspire

Computing Policy

Purpose of study

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. By 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.

Computing Curriculum Vision Statement

At Crawford Village Primary School, we aim to prepare our children to be 'lifelong learners' with the confidence and ability to develop their skills and understanding when meeting new challenges. Their learning environment should contribute to the development of these skills and they should have access to suitable, up-to-date equipment and emerging technologies. As computing is an increasing part of life today, it is essential that all pupils gain the confidence and ability that they need in this subject, to prepare them for the challenge of a rapidly developing and changing technological world. The use of ICT will enhance and extend children's learning across the whole curriculum whilst developing motivation and social skills.

Our vision is that the use of these technologies will enrich the experience of all pupils and that these resources will help to provide an environment without boundaries, where opportunities can be explored in safety and confidence. Our aim is to enable all our pupils and staff to be confident, competent, and independent users of ICT. We aim to use computing where appropriate to motivate and inspire pupils and raise standards across the curriculum. We will ensure teachers have the necessary training to deliver an up to date curriculum. We also aim to develop pupils' computing skills, knowledge, understanding and capability through taught computing lessons and to provide opportunities for pupils to apply and consolidate their capability across all curriculum contexts as well as to provide an environment where access to ICT resources is natural and commonplace. We will ensure that children are aware of the possible risks when using the internet through a rolling programme of assemblies and specific lessons as well as making sure the rules are displayed in each classroom area. Children and parents will be advised on the procedures and any breach of these will be noted and parents informed when necessary. Parents and children will be given any information necessary to keep them safe online both inside and outside of school. We will endeavour to keep pace with educational developments in computing and have a commitment to teachers having the necessary tools to do their jobs effectively. We will continue to ensure we have access to the most effective and emerging technologies.

Aims

The national curriculum for computing aims to ensure that all pupils:
- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- are responsible, competent, confident and creative users of information and communication technology.

Subject Content

EYFS
Early Years Foundation Stage Children should be taught to recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

Key stage 1
Pupils should be taught to:
- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- 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.

Key stage 2
Pupils should be taught to:
- 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 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.

Approaches to teaching & learning

The delivery of the computing curriculum (as outlined in the national curriculum framework) is overseen by the subject leader for computing.

The curriculum is divided into three sections:
1. Computer Science (programming)
2. Digital Literacy (including e-Safety)
3. Information Technology

Children will be taught from each of these strands within each key stage. Children in key stage one will also be taught basic computer skills (e.g. controls, word processing, filing, etc.). Each class receives direct teaching of computing skills one hour per week, with additional opportunities for computing skills to be developed through cross-curricular links, e.g. word processing skills in writing tasks, digital literacy when using online maths and spelling platforms.

Curriculum maps, which outline the focus of teaching for each half term across both key stages can be found as appendices A and B to this policy document. These also include opportunities for pupils to use a range of programmes to enable them to develop transferable skills and prepare them fully for the future once they leave Crawford Village Primary.

Staff CPD

The computing subject leader is responsible for ensuring that all staff are adequately trained so that they are able to deliver the curriculum effectively. This will include: organising CPD; leading staff meetings; preparing and sharing resources for planning and teaching; sharing good classroom practice. Regular communication with staff will keep staff up to date with any relevant developments and staff can seek out further support from the subject leader if needed.

Curriculum Maps

A Curriculum Map overview provides an outline of topics for each class in each half-term. Whilst the order of some topics is flexible, it is essential that the coverage outlined is completed in each year.

Teaching Resources

It is the responsibility of the subject leader to keep staff up to date with teaching resources. Links to online learning resources should be accessible to all staff. Regular Purple Mash refresher sessions should ensure all staff are familiar with the resources available.

Online Safety

Online safety is an essential component of the computing curriculum. Pupils should be able to:
- 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 (KS1).

- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact (KS2).

Online safety is central to all learning with technology. We want our pupils to develop essential computational skills whilst being safeguarded from potential harm and being able to keep themselves safe online. All pupils and adults working in school must sign the school's acceptable use policy prior to using the equipment. *See Online Safety policy for further details.*
We use the Project Evolve toolkit developed by SWGfL (South West Grid for Learning). This allows for online safety to be taught and discussed throughout the year and provides resources for each of the 330 statements from UK Council for Internet Safety's (UKCIS) framework "Education for a Connected World."

Recording learning
All pupils' work in computing is an on-going record of their progress and attainment in the subject.
Pupils' work should be in their own named folder within their year group folder on the school shared drive. This ensures that learning can be accessed from any workstation within the school. All work completed on a computer should be saved to these folders to serve as a record of learning and progress.

Assessment and reporting
At the end of each unit of work, the class teacher will assess the children on the particular part of computing they have been focusing on for example, programming, communication, handling data and e-safety. They will then use this information to make an overall judgement at the end of the year using the terminology 'working towards', 'expected standard' or 'greater depth'. This information is reported to parents on the end of year report and collected for analysis by the subject leader.

Equal Opportunities
We aim to create equality of opportunity for all our children, whatever their gender, abilities or background and give them chance to demonstrate what they know, understand and can do.

Special Educational Needs & Disabilities
The school's policy document for SEND explains in full the procedures which are in place for providing for pupils with SEND. This is in line with the Code of Practice for all L.A. Schools. Within computing, tasks are differentiated to ensure access to the national curriculum and to offer activities which are relevant to the development of the child.

More Able Pupils
More able pupils benefit from a curriculum which offers challenge and opportunities for investigation in order to extend their learning and deepen their conceptual understanding.

Policy written: October 2016
Reviewed: October 2018, April 2019, 2020, 2021, October 2022, November 2023
Next Review: November 2024

C2 Computing Curriculum Map Y1 – Y3

Crawford Village Primary School & Nursery

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle A 2022/23	Unit 1.1 Online Safety : & Exploring Purple Mash Weeks – 4 Programs- various	Unit 1.7 Coding Weeks – 6 Programs – 2Code Project Evolve: Y1 Online Relationships Other Programmes: beebot Scratch Jr. Barefoot unplugged	Unit 2.6 Creating Pictures Weeks – 5 Programs – 2PaintAPicture Other Programmes: Paint Draw and tell Musical paint Project Evolve: Y2 Online Reputation Y2 Online Bullying	Unit 2.1 Coding Weeks – 5 Programs – 2Code Other Programmes: beebot Scratch Jr. Barefoot unplugged Project Evolve: Y2 Managing Online Information Y2 Health, Well-being and lifestyle.	Unit 3.2 Online safety: Online Bullying / (PSHE RESOURCE) Weeks – 3 Programs – Various	Unit 3.1 Coding Weeks – 6 Main Programs – 2Code Other Programmes: beebot Scratch Jr. Barefoot unplugged Project Evolve: Y3: Copyright and Ownership.
	Unit 2.5 Effective Searching Weeks – 3 Programs – Browser Other Programmes: Chrome. Microsoft Edge. Project Evolve: Y2 Self Image and Identity.				Unit 3.7 Simulations Weeks – 3 Programs – 2Simulate, 2Publish Other Programmes: Scratch Jr Computer games Project Evolve: Y1 Privacy and Security	

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle B 2023/24	Unit 1.1 Online Safety & Exploring Purple Mash Weeks – 4 Programs – Various	Unit 2.4 Questioning Weeks – 5 Programs – 2Question, 2Investigate Other Programmes: Quizzit Kahoot Quizlet Project Evolve: Y2 Online Relationships	Unit 3.3 Spreadsheets Weeks – 3 Programs – 2Calculate Project Evolve: Y3 Online Reputation Other Programmes: Excel Googles sheets	Unit 1.6 Animated Story Books Weeks – 5 Programs – 2Create A Story Other Programmes: Scratch Jr. Book creator Toontastic Puppetpals	Unit 3.4 Touch Typing Weeks – 4 Programs – 2Type Project Evolve: Y2 Privacy and Security Other Programmes: Typingclub typedojo	Unit 1.3 Pictograms Weeks – 3 Programs – 2Count Other Programmes: Excel Project Evolve: Y1: Copyright and Ownership.
	Unit 1.5 Maze Explorers Weeks – 3 Programs – 2Go Other Programmes: beebot Scratch Jr. Twinkl littlr red coding club. Project Evolve: Y1 Self Image and Identity.		Unit 2.2 Online Safety Making Friends Online / Computer Safety Documentary (PSHE RESOURCE) Weeks – 3 Programs – Various	Project Evolve: Y1 Health, Well-being and lifestyle. Y1 Online Bullying	Unit 2.7 Making Music Weeks – 3 Programs – 2Sequence Other Programmes: Garageband	Unit 1.4 Lego Builders Weeks – 3 Programs – 2DIY Other Programmes: twinklrobotics

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle C 2024/25	Unit 1.1 Online Safety Image Sharing (PSHE RESOURCE) & Exploring Purple Mash Weeks – 4 Programs-various	Unit 1.8 Spreadsheets Weeks – 3 Programs – 2Calculate *Other Programmes: Excel Googles sheets* Project Evolve: Y3 Online Relationships	Unit 2.8 Presenting Ideas Weeks – 4 Programs – Various *Other Programmes: Word Publisher Powerpoint Imovie greenscreen* Project Evolve: Y1 Online Reputation	Unit 3.5 Email (including email safety) Weeks – 6 Programs – 2Email, 2Connect, 2DIY *Other Programmes: Outlook* Project Evolve: Y3 Privacy and Security	Unit 2.3 Spreadsheets Weeks – 4 Programs – 2Calculate *Other Programmes: Excel Googles sheets* Project Evolve: Y3 Health, Well-being and lifestyle. Y3 Online Bullying	Unit 3.8 Graphing Weeks – 3 Programs - 2Graph *Other Programmes: NCES – Graphs for kids Graphing for kids.* Project Evolve: Y2: Copyright and Ownership.
	Unit 1.9 Technology outside school Weeks – 2 Programs – Various Project Evolve: Y3 Self Image and Identity.	Unit 3.6 Branching Databases Weeks – 4 Programs – 2Question *Other Programmes: Flexitree Ilearn2*	Unit 1.2 Grouping & Sorting Weeks – 2 Programs -2DIY			

In coding, the lessons need to be taught in sequence as each lesson introduces skills that are consolidated and developed in the next lesson. Therefore, it is proposed to teach coding in one cycle only and none in the other two cycles.

There will be a coding club at Crawford Village every other half term, which will allow pupils in class two opportunities to practise a variety of coding skills each year.

Project Evolve refers to the Online Safety Toolkit developed by SWGfL (South West Grid for Learning) This allows for online safety to be discussed throughout the year and provides resources for each of the 330 statements from UK Council for Internet Safety's (UKCIS) framework "Education for a Connected World."

Class 3 Computing Curriculum Map Y4 – Y6

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle A 2022/23	*Unit 4.2 Online safety Making Friends Online (PSHE RESOURCE) Weeks – 4 Programs – Various* *Unit 4.7 Effective Search Weeks – 3 Programs – Browser* Project Evolve: Y4 Self Image and Identity.	*Unit 4.1 Coding Weeks – 6 Main Programs – 2Code* Project Evolve: Y4 Online Relationships Other Programmes/Apps: *Scratch Junior. Microbit. Crumble.*	*Unit 6.7 Quizzing Weeks – 6 Programs – 2Quiz, 2DIY, Text Toolkit, 2Investigate* Project Evolve: Y6 Online Reputation Other Programmes/Apps: *Kahoot Quizziz Quizlet Padlet*	*Unit 5.1 Coding Weeks – 6 Main Programs – 2Code* Other Programmes/Apps: *Scratch Junior. Scratch. Microbit. Crumble.* Project Evolve: Y5 Privacy and Security	*Unit 5.3 Spreadsheets Weeks – 6 Programs – 2Calculate* Other Programmes/Apps: *Excel* Project Evolve: Y5 Health, Well-being and lifestyle. Y5 Online Bullying	*Unit 6.1 Coding Weeks – 6 Main Programs – 2Code* Other Programmes/Apps: *Scratch Junior. Scratch. Microbit. Crumble.* Project Evolve: Y6: Copyright and Ownership.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle B 2023/24	*Unit 5.2 Online safety Online Bullying / Children's Views (PSHE RESOURCE) Weeks – 3 Programs - Various*	Unit 6.3 Spreadsheets Weeks – 5 Programs – 2Calculate Other Programmes/Apps: *Excel. Google Sheets.* Project Evolve: Y6 Online Relationships	Unit 4.4 Writing for different audiences Weeks – 5 Programs – 2Email, 2Connect, 2DIY Other Programmes/Apps: O*utlook. Word.* Project Evolve: Y4 Online Reputation	Unit 5.4 Databases Weeks – 4 Programs – 2Question, 2Investigate Other Programmes/Apps: *Scratch Junior. Microbit. Crumble. Excel OpenOffice Base*	Unit 6.5 Text Adventures Weeks – 5 Programs – 2Code, 2Connect Other Programmes/Apps: *Scratch Junior. Scratch Toontastic PowerPoint Book Creator* Project Evolve: Y6 Health, Well-being and lifestyle. Y6 Online Bullying	Unit 5.7 Concept Maps Weeks – 4 Programs – 2Connect Other Programmes/Apps: *LucidcHart Clickup Xmind Gitmind* Project Evolve: Y5: Copyright and Ownership.
	Unit 4.6 Animation Weeks – 3 Programs – 2Animate Other Programmes/Apps: *imovie Stopmotionstudio Toontastic 3D* Project Evolve: Y5 Self Image and Identity.			Unit 4.8 Hardware Investigators Weeks – 2 Other Programmes/Apps: *RaspeberryPI Microbit. Crumble.* Project Evolve: Y4 Privacy and Security		

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cycle C 2024/25	Unit 6.2 Online safety Image Sharing / Adults' Views (PSHE RESOURCE) Weeks – 3 Programs - Various	Unit 4.3 Spreadsheets Weeks – 6 Programs – 2Calculate Project Evolve: Y5 Online Relationships Other Programmes/Apps: *Excel.* *Google Sheets.*	Unit 5.5 Game Creator Weeks – 5 Programs – 2DIY 3D Other Programmes/Apps: *Scratch Junior.* *Scratch* *Gamemaker* *Kodu* Project Evolve: Y4: Copyright and Ownership.	Unit 5.6 3D Modelling Weeks – 4 Programs – 2Design and Make Other Programmes/Apps: *tinkerCAD* *3D Builder* *Makers Empire* Project Evolve: Y5 Online Reputation	Unit 6.4 Blogging Weeks – 5 Programs – 2Blog Other Programmes/Apps: *Word* *School Spider* Project Evolve: Y4 Health, Well-being and lifestyle. Y4 Online Bullying	Unit 6.6 Networks Weeks – 3 Other Programmes/Apps: *Barefoot computing* *LucidcHart* *Clickup* *Xmind* *Gitmind* Project Evolve: Y6 Privacy and Security
	Unit 4.5 Logo Weeks – 4 Programs – Logo Other Programmes/Apps: *Scratch Junior.* *Scratch* Project Evolve: Y6 Self Image and Identity.					

In coding, the lessons need to be taught in sequence as each lesson introduces skills that are consolidated and developed in the next lesson. Therefore, it is proposed to teach coding in one cycle only and none in the other two cycles.

There will be a coding club at Crawford Village every other half term, which will allow pupils in class three opportunities to practise a variety of coding skills each year.

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