Computing Policy

Costock CE Primary School

Where every child is a star!

'As God's children, we shine like Stars' Philippians 2 v.15

Our Promise

Every day at Costock Church School we are experiencing and learning;

Service to God, each other and ourselves, Truth, Agape and Respect

As we leave each day we take these Christian Values with us

Approved by:	SLT	**Date:**	Autumn 2023
Last reviewed on:	Autumn Term 2023		
Next review due by:	Autumn Term 2026		

Contents

1. Purpose of the policy

This policy reflects the aims and values of Costock C of E Primary School. It ensures all stakeholders, including staff, governors, parents and pupils, are working towards the same goals.

The purpose of this policy is to:

- Set out a framework for all teaching and non-teaching staff, giving guidance on planning, teaching and assessment
- Demonstrate adherence to the National Curriculum objectives and guidelines (if appropriate)
- Provide clear information to parents and carers about what their children will be taught
- Allow the governing board to monitor the curriculum
- Provide Ofsted inspectors with evidence of curriculum planning and implementation

2. Intent

We strive to teach a broad and balanced computing curriculum, which provides the children with the skills they need to flourish in the digital age. We aim to develop their skills and knowledge until all children have mastered the skills they need to access digital information, use a variety of online communication tools and make safe choices for themselves and their peers. Through our computing curriculum, we would like to develop children's confidence in using a variety of technologies, and develop the skills to recognise when and how to find further support or advice when they need it.

Our subject intent is to:

• Provide a rich environment which inspires children to explore, discover and learn about technology, the internet and their place in a digital world.

• Provide opportunities for children to get hands-on with technology and software that they will need to master to be successful members of society

• Encourage children to question the reliability of information they find online - to have a good knowledge of fake news and how to check the credibility of information and software they are accessing.

• Always maintain high expectations of pupil's abilities, allowing them to be inspired to invent and innovate now and in the future.

• Ensure computing is accessible, ambitious and provides children with the skills they need to stay safe, recognise cybercrimes and reduce the risk of becoming a victim of online crimes.

3. Aims and outcomes

The school's aims are to:

- Provide a relevant, challenging and enjoyable curriculum for ICT and computing for all pupils;
- Meet the requirements of the national curriculum programmes of study for ICT and computing;
- Use ICT and computing as a tool to enhance learning throughout the curriculum;
- Respond to new developments in technology;
- Equip pupils with the confidence and capability to use ICT and computing throughout their later life;
- Develop the understanding of how to use ICT and computing safely and responsibly.

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication;
- 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;

4. Teaching and learning

Computing is taught in mixed-aged class teachers. Lesson plans are based around the subject's long-term plan and resources available, with objectives adapted to suit the stage of development for the pupils in each class. We follow Purple Mash for our scheme of work. The teaching of Computing might involve:

- Whole-class teaching
- Individual projects/research on laptops or iPads
- Role play
- Discussions
- Use of Bee-Bots
- Use of cameras

5. Curriculum overview

As the school we follow planning and a two-year cycle based on units of learning from Purple Mash. Pupil progress towards objectives will be recorded by teachers as part of their class recording system. Staff will follow Purple Mash planning as stated on the Computing Curriculum Overview. A minority of children will have particular Teaching and Learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning. This could include G&T children, those with SEN or those who have EAL. Teachers must take account of these requirements and plan, where necessary, to support individuals or groups of pupils to enable them to participate effectively in the curriculum and assessment activities. During any teaching activities staff should bear in mind that special arrangements could be made available to support individual pupils. This is in line with the school inclusion policy. These children should be identified and discussed at pupil progress meetings to ensure appropriate provisions or interventions are put into place.

5.1 Early Years Foundation Stage (EYFS)

Children enter our Reception class in the September after their fourth birthday. The EYFS in Reception sets out the learning objectives for the seven areas of learning:

- Physical Development
- Understanding of the World
- Expressive Arts and Design
- Communication and Language.
- Personal, Social and Emotional Development
- Mathematics
- Literacy

The EYFS aims to give the children knowledge and skills so they can begin the National Curriculum.

It is important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. ICT is not just about computers. Early years learning environments should feature ICT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or drive a remote-controlled toy. Recording devices can support children to develop their communication skills.

5.2 Key Stage (KS) 1

At Costock CofE Primary School, Computing is taught as a discrete lesson and as part of cross-curricular themes when appropriate.

By the end of key stage 1 pupils should be taught to:

- write and test simple programs;
- use logical reasoning to predict and computing the behaviour of simple programs
- organise, store, manipulate and retrieve data in a range of digital formats;
- communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

5.3 Key Stage (KS) 2

By the end of key stage 2 pupils should be taught to

- design and write 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; generate appropriate inputs and predicted outputs to test programs and use logical reasoning to explain how a simple algorithm works 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; describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

See the National Curriculum document for the full programme of study that the school will follow.

5.4 Programmes of study

Costock CofE Primary School Computing Overview			
Twinkle Class	Class 1	Class 2	Class 3
Cycle A			
Mouse and Trackpad skills	Online Safety 1.1 Online Safety 2.2	Coding 3.1 Coding 4.1	Coding 5.1 Coding 6.1
Keyboard skills		Online Safety 3.2 Online Safety 4.2	Online Safety 5.2 Online Safety 6.2
Drawing skills	Maze Explorers 1.5	Touch Typing 3.4 Effective searching 4.7	Spreadsheets 5.3 Spreadsheets 6.3 Spreadsheets (Excel/google Sheets) 6.9
Robots	Coding 1.7 Coding 2.1	Email 3.5 Writing for different audiences 4.4	Blogging 6.4 Text adventures 6.5
Sounds and Photography	Technology outside school 1.9	Simulations 3.7 Animation 4.6	Databases 5.4 Networks 6.6
Technology around us	Pictograms 1.3 Creating Pictures 2.6		
Cycle B			
Mouse and Trackpad skills	Grouping and Sorting 1.2	Spreadsheets 3.3 Spreadsheets 4.3	Game Creator 5.5 Quizzing 6.7
Keyboard skills		Branching Databases 3.6 Graphing 3.8	3D Modelling 5.6 Binary 6.8
Drawing skills	Lego Builders 1.4 Animated stories 1.6	Presenting (PowerPoint) 3.9 Presenting (Google Slides) 3.9	Concept Maps 5.7
Robots	Spreadsheets 1.8 Spreadsheets 2.3	Hardware Investigators 4.8	Word Processing (Word) 5.8 Word Processing (Google Docs) 5.8
Sounds and Photography	Questioning 2.4 Presenting ideas 2.8	Making Music 4.9 Artificial Intelligence 4.10	Using External Devices 5.9
Technology around us	Making Music 2.7		

6. Cross-curricular links and SMSC

Computing shares links with the following subjects:

- English: development of literacy skills through reading and writing and typing
- Maths: analysing numerical data and understanding positional language for coding
- History, Geography and Science: use of the internet for research
- Spiritual, moral, social and cultural (SMSC):
    - Students are continually reflecting on their own lives and the lives of others as they look at various computing case studies. Students debate and formulate their own set of values and beliefs through case studies as they share their own experiences.
    - Computing provides opportunities for reflection of awe and wonder about the achievements in computing today and the possibilities for the future. Computing lets students have the opportunity to reflect on how computers can sometimes perform better in certain activities than people.
    - To promote students' spiritual development, their sense of self and their will to achieve, the computing department continually takes the opportunity to praise students for their contribution in lessons. Students consider the effects of social networking and the consequences of cyber bullying; they also consider the legal aspects of computing. They consider the implications of file sharing and downloading illegally and the penalties for engaging in this type of activity. Students also consider the moral aspects of developments in technology.
    - Computing helps students to explore aspects of real and imaginary situations and enables them to reflect on the possible consequences of different actions and situations. It can raise issues such as whether it is morally right to have computer games whose aim is killing and violence, and whether it is fair that some people in this country and in other countries cannot use the internet.
    - As part of the computing curriculum students are taught to think and produce work that reflects the needs of diverse audiences within our community and the wider community. As students develop their skills in a range of software they are challenged to work in groups to find solutions whilst developing respect for the ideas and opinions of others in their team. This is particularly prevalent in the design phase of tasks given. In addition students are encouraged to develop their team working skills through collaborative work and research. The students also explore the concept of teams and the roles that individuals have to play.
    - Computing can also help all students to express themselves clearly and to communicate. As students' progress through their learning they will consider more complex social needs and are encouraged to research and work collaboratively to find appropriate solutions to issues that may affect particular groups within society.
    - Computational thinking encourages students to develop and explore their problem solving skills. Computing Empowers students to apply their ICT and computing skills and to gain knowledge of how programming links between subjects for instance maths. Students explore how developments in technology have changed our culture, particularly the rise in social networking sites and the ability to communicate instantly across National and International borders. Computing involves the breaking through of linguistic and cultural barriers. It is possible to e-mail or chat across the world and to word process in the mother tongue.
    - Whilst studying various aspects of computing students are asked to reflect on how different cultures are portrayed on the internet and why or who is portraying them in this way. Students are also challenged to think about how differing cultures access and use the internet and what implications this has on the individual and the culture.

7. Assessment and recording

7.1 Assessment

Teachers regularly assess capability through observations and looking at completed work. Key objectives to be assessed are taken from the national curriculum to assess key ICT and computing skills each term. Assessing ICT and computing work is an integral part of teaching and learning and central to good practice. It should be process orientated – reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of the concepts of ICT and computing. As assessment is part of the learning process it is essential that pupils are closely involved.

- Formative assessments are carried out during and following short focused tasks and activities. They provide pupils and teaching staff the opportunity to reflect on their learning in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.
- Summative assessment should review pupils' capability. Use of independent quizzes at the end of each half term, provide opportunities for pupils to demonstrate capability in relation to the term's work. There should be an opportunity for pupil review and identification of next steps. This will be recorded by teachers within the key stage and next steps identified.

At the end of each school year pupils will be assessed within 1 of the following bands:

- Pre-Key Stage (PKS)
- Working Towards the curriculum (WT)
- Working at Expected (EXP)
- Working at Greater depth (GDS)

See Assessment policy.

Marking
Children receive regular verbal feedback during lessons and marking follows the school's marking policy.

See Feedback and Marking Policy.

7.2 Recording

In Computing, pupils will record their learning in the following ways:

- In files on Purple Mash or the shared drive on our school server.
- Reception-Individual Learning Journey

This may take the form of animations, coding sequences, photographs, pictures, notes or written work, and may be worksheet-based or fully independent.

8. Resources

8.1 Textbooks and other equipment

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible ICT infrastructure by investing in resources that will effectively deliver the strands of the national curriculum and support the use of ICT and computing across the school. Teachers are required to inform the Computing Subject Lead and Office Manager any faults as soon as they are noticed.

ICT and computing network infrastructure and equipment has been sited so that:

- Every class has access to tablets and laptops connected to the school network and an interactive whiteboard in every classroom and in the school hall

- There are 2 laptop trolleys and 1 iPad trolley in school with internet access available to use on school grounds
- Pupils may use ICT and computing independently, in pairs, alongside a TA or in a group with a teacher.
- The school has an ICT and computing technician.

9. Roles and responsibilities

9.1 Headteacher

The headteacher at our school will:

- Support the subject leader but also hold them to account for the effectiveness of the subject
- Support staff through the provision of training and resources
- Monitor the planning and delivery of the subject
- Ensure the requirements of the National Curriculum are met
- Ensure this policy is reviewed according to the timescales set out

9.2 Subject leader

The subject leader at our school will:

- Prepare and review subject policy and curriculum plans
- Promote the study of the subject throughout the school
- Monitor the teaching and assessment of the subject
- Attend appropriate CPD
- Stay informed regarding developments in the study and teaching of the subject
- Evaluate resources
- Provide training and CPD to staff on the subject curriculum and its delivery, and keep them informed about subject developments nationally
- Assess the impact of the subject curriculum on pupils' learning and development
- Make presentations to governors on the subject and how it is being taught

9.3 Link governor

The link governor responsible for Computing at our school will:

- Monitor the impact of the subject across the school and on pupils
- Monitor teacher workload and professional development
- Ensure subject action plans are suitable
- Monitor the quality of resources
- Keep track of pupil and parent engagement with the subject
- Keep up to date with the curriculum (what's taught, why it's taught, and how it's taught)

9.4 Classroom teacher

Classroom teachers at our school will:

- Teach and assess the subject according to the principles laid out in this policy
- Report to the subject leader
- Maintain subject knowledge and appropriate CPD

9.5 Parents

The parent community at our school will:

- Make sure their children are prepared for learning
- Monitor the completion of homework
- Monitor the safety of their children online

10. Inclusion

Teachers set high expectations for all pupils in Computing. They will use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with special educational needs (SEN)
- Pupils with English as an additional language (EAL)

Teachers will plan lessons so pupils with SEN and/or disabilities can study computing, wherever possible, and ensure that there are no barriers to every pupil achieving.

Teachers will also take account of the needs of pupils whose first language is not English. Lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part in computing.

Further information can be found in our statement of equality information and objectives, and in our SEN policy and information report.

11. Links to other policies

This subject policy links to the following policies and procedures:

- Curriculum policy
- Teaching and Learning policy
- Assessment policy
- Marking and Feedback policy
- SEND policy
- E-Safety Policy

12. Monitoring and review

This policy will be reviewed by SLT every 3 years or sooner if required .